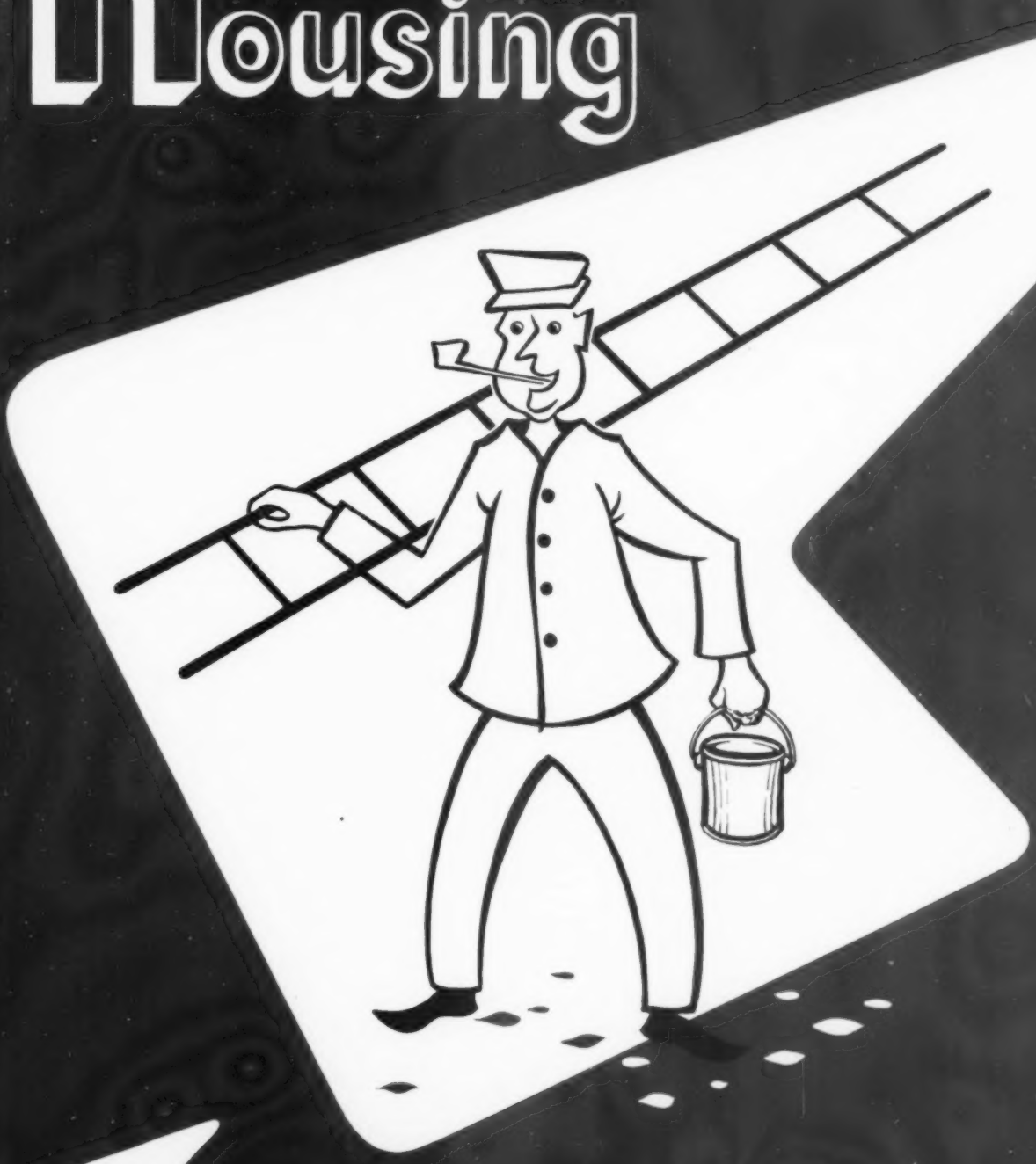
Journal of Housing

MAY 1952



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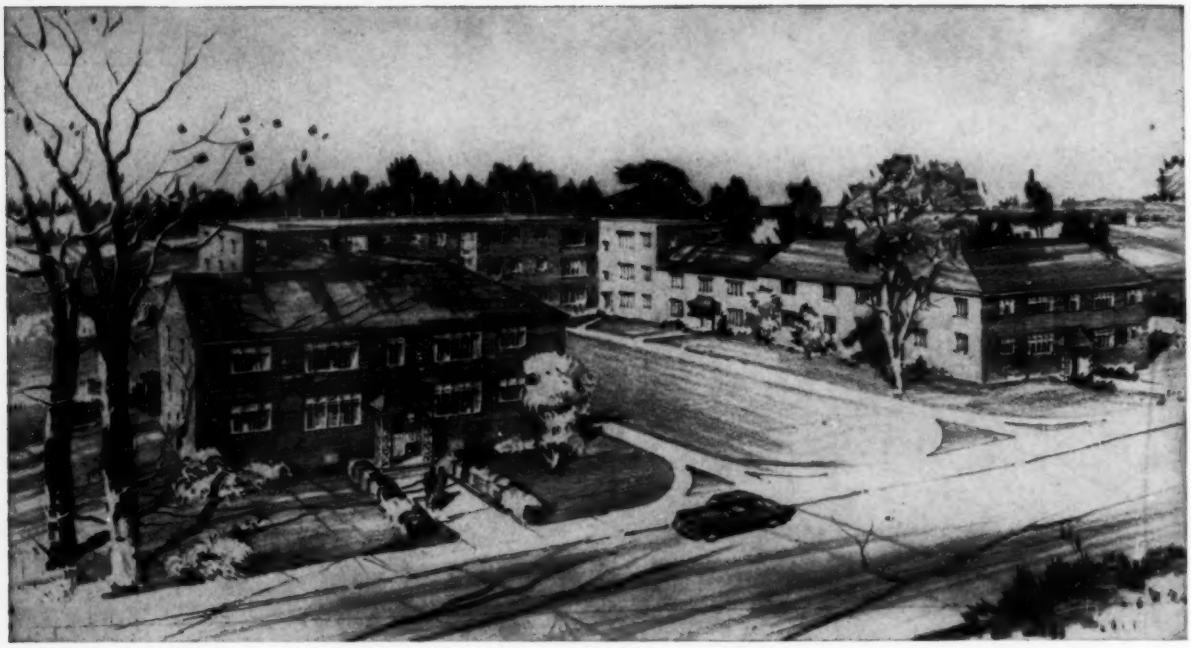

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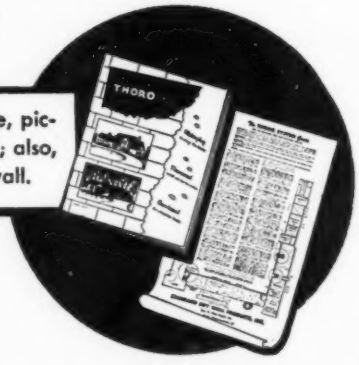

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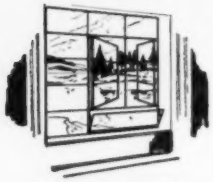

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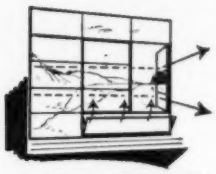

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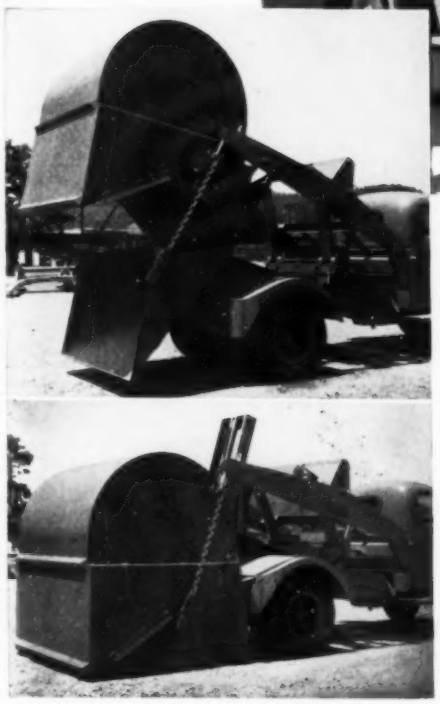

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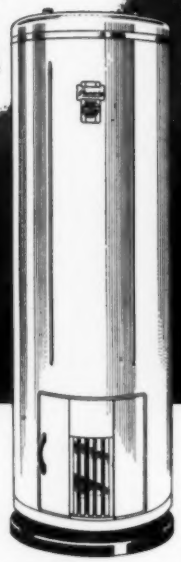

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PREVENTIVE MAINTENANCE

WILLIAM F. KNOP
General Maintenance Superintendent, Housing Authority of Baltimore City

Children help care for flower beds in public areas under preventive maintenance program in Baltimore.

It was almost three years ago that a tenant at Brooklyn Homes in Baltimore first answered a knock at her door to find a lawn mower — and a courteous housing authority employee who explained briefly that a new maintenance policy had been adopted in the project. Tenants were no longer required to walk to the maintenance shop to get a mower, he told her. Mowers would be delivered to tenants when the grass needed cutting and would be picked up after lawns had been cut.

Tenants in the 102 acre project previously had walked to the maintenance shop when they needed a lawn mower. Since the shop was not open in the evening, the job usually fell to the housewife. All she needed to do was walk about a half-mile to the shop, pick up an old-fashioned cast iron, 18-inch lawn mower that weighed more than 55 pounds, and drag it—up and down hills and over several curbs—to her lawn. She cut her lawn and then returned the mower to the shop. Sometimes small children had to be left alone while a housewife went to the shop and when she arrived there all the mowers may have been out on loan. It usually took more time and effort to get and return a mower than to actually mow a lawn. Since it had to be wrestled over several concrete curbs, damage to the mower was inevitable.

Finally, it was recognized that it was too much to expect willing tenant cooperation on lawn care under existing conditions. The new system was adopted. Under it, two men load all of the hand mowers on a light pick-up truck. One man drives the truck; the other man looks for long grass. When the spotter sees a group of lawns that need cutting, the truck is parked and both men dispense lawn mowers. In a short time all of the mowers are out on loan. They are picked up the next day or in several hours, depending upon how soon they are needed for other lawns. Because the mowers are delivered to the tenants, wear and tear are reduced to a minimum. Tenant cooperation is excellent. The project presents a good appearance because every lawn is trimmed and the turf is healthier because the grass is cut at the right time. High grass, which is torn by mower blades, and short grass, which burns out in hot weather, are avoided. Best of all, the tenants show their appreciation for the new system not only by keeping their lawns in good condition but also by growing more flowers and keeping areas around their homes raked clean. The same system is used to loan rakes and other garden tools to tenants.

Repair Costs

By preventing damage to hand mowers, annual costs of repairs and sharpening dropped from $6.07 per mower in 1949 to $3.45 per mower in 1951. The mowers are getting older and labor and material costs are higher but preventive methods have cut costs and improved operations.

In Brooklyn Homes, routine maintenance repairs inside dwelling units were formerly handled in the conventional way. If something broke down or required repairs, the tenant reported it to the management office. A work order was issued to the shop and later a maintenance employee went to the dwelling unit to make the repairs. While emergency situations were given reasonably prompt attention, the routine jobs such as leaking plumbing, plaster cracks, and tears in screens were back-logged from one to three months.

Inspections

With a preventive maintenance system all of the faucet washers in the project are inspected once a year. If the washer shows any signs of deterioration or damage, it is replaced. It is far cheaper to replace a washer that costs approximately three cents and that may still have a year of wear-life than to have a leak develop, pay for the water loss, pay for the cost of paper work, clerical work, travel time, and the possible added costs of cutting a new seat in the faucet. Since this system was adopted, the water consumption in Brooklyn Homes project in the last quarter dropped more than 30 per cent. Total cost of water in the project in 1950, before preventive maintenance was adopted, was $10,703.

It was not easy to make the transition from the ordinary work-order type of maintenance to the preventive type. In the first place, the transition period required time and careful planning. Routine work such as janitorial, grounds, and heating operations had to

be carried on day by day. Urgent emergency work orders had to be given priority, as usual. However, the bulk of maintenance jobs involve glazing, lock repairs, carpentry, minor electrical repairs, plumbing repairs, care of roofs, and plastering on a small scale. These are the jobs that can be handled more effectively by a preventive maintenance system than by waiting for a breakdown before repairs are made.

Transition Jobs

It is obvious that the proper selection of the jobs to be handled during the transition to preventive maintenance is one of the most critical steps to be taken. But by using good judgment and by establishing standards of priority a limited group of jobs can be selected for this transition period. As experience dictates, more jobs can be added later or some of the jobs originally selected can be deleted. The important thing to remember is that during the first stages of the transition period not too many jobs should be included. If there are too many the system will bog down. Enough work should be included, however, so that the time required to make a complete circuit of the project is two to three months.

Selecting jobs for the transition period may best be done as follows:

1—Make a list of all common maintenance repair jobs performed in the project.

2—Select the jobs that constitute the bulk of tenant complaints. Omit the special or unusual jobs that are best handled on a day-to-day basis.

3—From among the usual tenant complaint jobs omit those that can be delayed because safety is not involved, those where further deterioration will not result in higher repair costs or other financial loss, and those where delay will not seriously inconvenience tenants.

The jobs that are left after this sifting process is completed are those that should be handled on the first circuit through the project. Each of the jobs should be analyzed separately to determine the most efficient operating methods. The analysis may be made as follows:

1—As each job is actually performed by a competent worker, a numbered list is made in chronological order of every step.

2—All of the various "tricks" and key points to be observed are noted on this list.

3—Each *step* is analyzed to eliminate unnecessary work, simplify the job, and combine steps to secure the best method. This analysis should be worked out with the man who did the job. He may have some practical suggestions.

4—The best method should be tried and timed to get an estimate of the number of minutes required for each job. Travel time should not be included but about 10 to 15 per cent should be added to the total for loss of time from fatigue and necessary delays.

5—Finally, all tools and materials required to do the job should be listed.

Materials and Tools

Very early in the planning stage it will become evident that with a preventive maintenance operation it is necessary for workers to carry more materials and tools each time they leave the shop. Under the old work order system, a worker left the shop to make two or three repairs and then returned to the shop. He spent from 30 to 50 per cent of his time in travelling to and from the shop.

With a preventive maintenance operation a group of two to ten or more workers leave the shop to do a series of jobs. They must carry all the tools and materials required for a four to eight hour period. Generally, these men cannot conveniently carry the tools and materials needed in the ordinary manner. Depending upon the nature of the jobs, they may work from a truck or from a hand cart. Here again, considerable planning is necessary. In a large project of 600 or more dwelling units, a rolling stock room or work truck is desirable. In smaller projects, one, two, or possibly three hand carts could be used to advantage.

"Stock-room-on-Wheels"

Size of projects in the Baltimore program varies to such an extent that many types of transportation for materials and tools are used. In Brooklyn Homes, a "stock-room-on-wheels" is used. This is a vanette type truck fitted with shelves and compartments for stock and tools. The cab of the truck is modified to also serve as an office for the stock room clerk. The kind of stock carried on this truck is changed according to the type of work being done during the circuit through the project.

In smaller projects, tools and materials are transported on specially designed hand carts. These carts have tool and material compartments that can be locked. Smaller carts are used for glazing, electrical, and plumbing jobs or combinations of them. Each cart is constructed to carry all the tools and sufficient materials for eight hours of work but every effort is made to avoid transporting excess weight.

After the methods of doing each job, the timing, the materials and tools, and the transportation arrangements are completed, the men have to be trained in the new ways of doing the

(*Continued column three, page* 162)

Stock-room-on-wheels provides tools, materials

Maintenance clerk does his work in "rolling" office

DECENTRALIZED HEATING —

twelve years service at Hanover Acres prove worth*

Hanover Acres, a federally aided low-rent housing project, owned and operated by The Housing Authority of the City of Allentown, Pennsylvania, is located on a spacious tract of 42 acres. It was one of the first low-rent housing developments constructed under the 1937 housing act. There are 322 individual family row house dwelling units ranging from three to six rooms grouped in 36 buildings, varying from seven to ten dwelling units each (see picture below).

Planning for this project began early in 1938 and by February of 1939 all construction contracts were placed. During the planning stages, a great deal of discussion centered around the design of the heating system. Up to that time heating engineers favored a central heating plant in multiple housing projects utilizing low pressure or high pressure steam as the medium. However, after intensive study, the architect for Hanover Acres concluded that a decentralized set-up utilizing forced circulating hot water and consisting of an individual plant for each of the buildings would provide greater efficiency, lower fuel consumption, lower maintenance costs, and lower operating costs.

Advantages

More than 12 years of operation have proved that this system is ideal from many standpoints for this type of housing development. In the first place, personnel required to operate the system need not be of the specially trained caliber mandatory in centralized steam plants. Second, due to the completely automatic control, only periodic attention by the maintenance staff is required. Third, fuel costs indicate economical operation. Fourth, maintenance problems, when they occur, are usually of a minor nature. Then, too, in the event of a system breakdown in any individual plant, only a few dwelling units are affected. And finally, ash removal is achieved with a minimum of time and effort because of the automatic depositing of the ash residue in covered containers.

From the management viewpoint, the authority's experience with this type of heating system has been entirely satisfactory — so much so that when a second project, named Riverview Terrace, was constructed in 1943, similar plants were installed.

The System

The architect's idea in designing the Hanover Acres system was based on use of anthracite fuel and automatic stokers. Steel heating boilers were specified with heating capacities ranging from 2000 square feet at 150 B.T.U. for the smallest buildings to 4030 square feet for the largest. Heating surfaces ranged from 101 square feet to 158 square feet for the largest buildings. Boilers are of fire or water tube type, each equipped with an immersion domestic hot water heating coil of brass bent pipe set in the dome of the boiler. The immersion coils have capacities ranging from 300 gallons for a 100 degree rise in three hours for the smaller buildings to 500 gallons for the larger. In sizing coils, boiler water temperature of 190 degrees F. was used. Boilers were placed upon special foundations designed to accommodate stoker arrangement.

Stokers are the "direct from bin" feed anthracite type with integral ash return and hoist for depositing ashes directly into ash cans. Stokers were designed for capacities of 40 pounds of coal per hour for the smaller buildings, 55.8 pounds for the intermediate, 72.5 for the larger, and 80.5 for the largest. Number 1 Buckwheat anthracite fuel is used throughout. All boilers are manufactured by Spencer and stokers are by Iron Fireman Corporation.

The 37 buildings comprising the project (36 dwelling unit buildings and an administration building) are serviced by 35 boiler rooms located in the basements of the buildings and easily accessible from the streets for the delivery of fuel. Adjoining each boiler room is a hopper shaped fuel bin designed for completely automatic feed to stoker and placed so that the stoker may draw fuel from the bin at right angles to ash discharge equipment.

Each heating system has a vertical set centrifugal circulating pump equipped with 1/6 horsepower vertical split phase, nonradio interference motor of 220 volt, 60 cycle, single phase capacity. Operation is continuous at 1725 r.p.m. with automatic overload protection. In the two locations where two buildings are hooked together for heating purposes, insulated underground conduit is used to carry the heating lines.

Controls

The 35 systems are provided with separate thermostatic control systems responsive to outside temperature changes and controlling heat within buildings. A differential temperature controller is used to increase or decrease the temperature of the supply water to the convectors in direct proportion to the rise or fall of the outside temperature. This controller is a blender valve permitting manual adjustment over a temperature range of 20 degrees F. of inside temperature and also to maintain

*Submitted for publication by The Housing Authority of the City of Allentown.

inside temperatures within a 2 degree variation of the set temperature. Each blender is fitted with a thermostatic element unaffected by pressure variations and capable of withstanding any static pressure up to 200 pounds.

Working integrally with this blender valve are thermostats containing suitable nonfreezing expansion media mounted outside the buildings. Each thermostat is fitted with a perforated shield to protect the bulb from the influence of the sun's rays while allowing it to be readily affected by any changes in the atmosphere. The thermostat is coupled to an armor covered capillary tube that extends into the boiler room for connection to the blender. These thermostats are designed to withstand 90 degrees F. overheat and to be responsive to any change in temperature from 10 degrees to 70 degrees F. All are fitted with manual adjustments and locking devices so that they cannot be tampered with. The ratio of the outside thermostat bulb capacity to that of the capillary tube was marked out so that the line error should not affect the blended water temperature by more than 5 per cent, or in other words, a change of air temperature of 20 degrees F. surrounding the flexible tubing is equivalent to a change of 1 degree F. outside.

Of course, automatic boiler water fillers, pressure reducing valves, safety valves, and pressure air tanks are used wherever essential.

In order to assure uniform heating of all dwelling units, the supply lines from the boilers run directly to the dwelling unit located farthest away from the boiler room, at which point the first branch to individual convectors occurs. All radiation is by convectors of the recessed cabinet type, each equipped with air chambers and slot type air valves.

Costs

The total heating plant operating costs for the 10 year period ending June 30, 1951 were $167,692.10, distributed as follows: fuel, $127,319.64; heating labor — including inspection, ash removal, etc.—$17,066.67; labor for repairs, maintenance, and replacement, $8,779.73; material for repairs, maintenance, and replacement, $14,526.06. The average yearly total cost of operation of each heating plant for the past ten years, including fuel, heating labor, and R M & R material and labor costs, has been $479.12.

Not only have considerable dollar savings been effected through use of this heating system, but the authority is able to maintain all of its 526 dwelling units in three projects with a total maintenance staff of one supervisor, five mechanics, and two laborers.

Right, thermostat outside building with tube leading to boiler room. Below, a heating plant, showing boiler, stoker, and ash receptacles.

PREVENTIVE MAINTENANCE—

(*Continued from page* 160)

job. Each worker is carefully instructed and must demonstrate that he can do the job correctly according to the established standards. In most cases, since the worker assisted in setting up the standards, this part of the program does not require much time. During the last session, sufficient time is allotted for a discussion on courtesy and tenant relations with emphasis on securing good tenant cooperation. After these preparations, the repair crew is ready to make its first preventive maintenance circuit through the project.

During the first circuit, the work may be delayed somewhat because tenants usually have many questions and some ask the men to do work that is not on the schedule of jobs. Such requests are written as special work orders by the maintenance crew. These are often handled by one man who is either a full-time or part-time emergency worker. Otherwise, these special work orders are used for planning the schedule of jobs for the next circuit through the project. When the maintenance worker goes to a dwelling unit he notes the general conditions both inside and outside. This inspection is made in an unobtrusive way. No attempt is made by the maintenance worker to correct the tenant. But the housing manager is assured that from four to six times a year an employee of the authority goes inside each dwelling unit and reports to him any misuse of facilities, poor housekeeping, and other matters that require his attention.

Results

If the preventive maintenance work program has been properly planned, emergency work orders decrease. The amount of time spent going to and from jobs drops to less than 10 per cent of the total work day. More work is accomplished. Workers become more skilled, use better methods, have fewer accidents, and use labor saving tools and machines. The supervisor does more planning and becomes more cost conscious. Corrections are made more promptly when tenants misuse equipment or fail to keep their grounds clean. Better service is provided and tenants are encouraged to assist in keeping grounds and structures in good condition. A chain reaction is set up that demonstrates the plain, unmistakable fact that it is easier to maintain a project kept in good condition through preventive maintenance and tenant assistance than to struggle along with the familiar but antiquated system of not doing anything until something breaks down.

CROSS-WALL SYSTEM —

Non loadbearing finished wall facing.
2" thick prestressed concrete floor planks.
Cavity cross wall filled with concrete.

high-rise construction at row house costs

A construction system that allows considerable savings in money, materials, and labor and that is applicable to both low apartment and high-rise buildings is being put into practice in Clydebank, Scotland.

The new system of cross-wall construction, as described by a Clydebank architect, Sam Bunton, in the February 15, 1952 issue of *The Municipal Journal* is one answer to Britain's problems of high land costs that dictate high densities; high costs of multi-story construction; and the shortage of steel and timber.

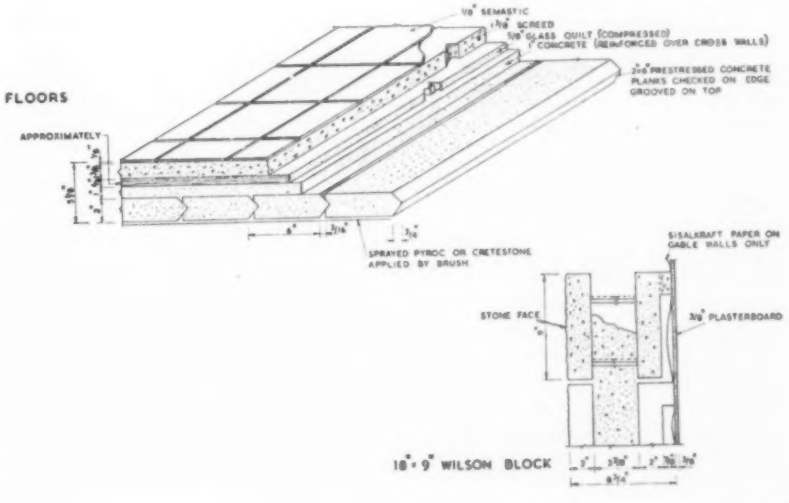
Mr. Bunton claims the following advantages for the system: 1—it reduces the amount of steel used per unit from 8200 pounds to 1200; 2—it eliminates complicated steel and wood form work, which alone effects a saving of $860 per unit; 3—it reduces the amount of lumber normally used; 4—it means considerable savings in labor, since only one trade is employed in the actual construction instead of the five different ones used on traditional construction; 5—it reduces floor thickness by 4 inches, which effects a large saving in both height and cost in a multi-story building; and 6—it reduces external wall thickness of a 15-story building to that of a one-story row house, making its finished cost less than the steel and wood form work alone of a traditional wall.

Essentially, the cross-wall system permits construction of a multi-story building in much the same way as a row house. Only two basic structural elements are used: hollow concrete blocks that form a continuous cavity wall and prestressed concrete slabs for the floors. These elements are mass produced in standard sizes. The cross walls (exterior side walls and interior party walls) become load bearing members and are so distributed that they carry dead and live loads directly to the foundation. Because part of the load is put on interior walls, exterior walls can be thinner than usual, resulting in the savings noted above. Concrete blocks from which the cross-walls are built consist of two 1¼-inch slabs of concrete spaced 4 inches apart and held together with reinforced concrete ties. Each slab measures 9 inches deep and 18 inches wide. When the blocks have been built up a few feet, a light mesh reinforcement is inserted in the cavity and high strength concrete is poured in. External wall blocks have a natural sandstone finish; interior walls are finished with plasterboard. Front and rear exterior walls are nonload bearing, decorative fill-ins.

Floors that consist of prestressed concrete "planks" 2 inches thick and 6 inches wide are laid between cross walls. These planks have interlocking edges and are sufficiently strong to carry their own weight over spans of up to 18 feet. The junction of the floor slab and the wall is reinforced and concrete is poured into the cavity in the wall block and over the slab, thereby eliminating costly form work. Over the floor planks a 1-inch layer of concrete is poured, which settles firmly into the grooved tops of the slabs. When floors are finished, they are 4 inches thinner than ordinary floors. In the 10-story buildings at Clydebank, this means a saving of 4 feet in height. Concrete slabs also form the structural basis of the roof.

Using the cross-wall system, total development cost of a three-room unit in a multi-story building on a central site is $780 less than the cost of a

(*Continued column three, page* 179)



CORROSION IN WATER HEATERS —

magnesium anodes offer protection

O. L. BAUBLITZ

Assistant Director,
Operations Engineering Branch,
Public Housing Administration

Corrosion of hot water equipment is probably one of the greatest single sources of maintenance expense in housing operation. Unprotected galvanized hot water tanks, for instance, frequently need replacing in from 18 to 36 months after they are installed, an expense that adds up to more than $1 of the average monthly unit maintenance cost. For large tanks that are used with project operated heating systems and that have interior surfaces accessible through manholes, the problem of corrosion has been solved by coating the interiors with about ½-inch of extremely dense concrete, which water cannot penetrate. However, for the small tanks for 20, 30, or 40 gallon heaters, with inaccessible interiors, there is no such simple solution. So the results of a recent test of one method — cathodic — for protecting heaters is of particular interest.

The test—reported fully in the February issue of *Corrosion,* official publication of the National Association of Corrosion Engineers, Inc., Houston—involved experiments using magnesium anodes to protect both glass lined and unlined galvanized tanks. Tests were run in 12 cities, representing 12 different kinds of water conditions.

Basis of Test

Basis of the test is the fact that tank corrosion is usually caused by electrochemical action, that is, by numerous small electrical currents flowing between tank surfaces. The rate at which this action takes place is proportional to the electrical conductance of the water, which is measured in terms of the amount of dissolved solids, calcium, acids, or bases in the water. Any metal will tend to dissolve in water containing these impurities, so a bar of magnesium, which has a higher electrical potential than the tank surfaces, is placed in the tank, setting up a current flow from the magnesium rod — the anode — to the tank — the cathode. If the flow of current from the anode is intense enough, it will blank out the corrosive currents attacking the tank surface. The life and effectiveness of the anode depend on the conductivity of the water. Past experience has shown that in some localities that have different kinds of water with varying compositions, even magnesium anodes are not always satisfactory.

Objectives of the test were, first, to measure the flow of current in each type of water; second, to determine to what extent a magnesium anode will protect water tanks under various water conditions; and, third, to gauge the life expectancy of the anode under certain conditions. For purposes of the test, four glass lined and two galvanized tanks were used at each of the 12 installations. (With glass lined tanks the problem is one of protecting exposed metal parts rather than the whole tank. Because most of the metal is protected by the lining, the exposed parts corrode much more rapidly.) Coatings on the equipment were damaged deliberately to ascertain anodic performance under abnormally difficult conditions and tank heaters were inspected at regular intervals. After a year, half of the heaters were removed and taken apart.

Examination of the tanks revealed the facts shown in the table below. Data for only six localities are included here. More complete information on the composition and conductivity of the water, current density in milliamperes per square foot of tank surface, the predicted life of magnesium anodes, and the degree of protection they afforded, together with pictures of some of the tested water heaters, is available in the original article in *Corrosion.*

Conclusions

Based on the first year's operation, the authors drew the following conclusions from test data: (1) magnesium anodes are not effective in galvanized heaters when the dissolved solid content of water is below 120 parts per million parts of water (see note below on corrosion of tanks at Bridgeport and Little Rock and note the water conditions for these cities in the table); (2) magnesium anodes offer complete protection to glass lined water heaters in all test locations; (3) life expectancy of anodes used in galvanized tanks varied from two to seven years; in glass lined tanks from 14 to 50 years.

Water Conditions	Bridgeport, Connecticut*	Little Rock, Arkansas*	Milwaukee, Wisconsin	Columbus, Ohio	St. Louis, Missouri	Kokomo, Indiana
Solids (per million parts water)	54	28	149	244	278	478
Hardness: $CaCO_3$ (calcium parts per million parts water)	28	18	130	74	113	239
pH (measure of acidity or alkalinity)	7.1	8.5	7.6	10.2	9.1	7.8
Findings						
Density of current in milliamperes per square foot:						
galvanized tanks	1.20	.62	.95	2.84	2.53	1.67
glass lined tanks	91.5	57.5	53	192	168	298
Life expectancy of anodes, years:						
galvanized tanks	6	7	6.5	2	2.5	4
glass lined tanks	17	50	33	21	14.5	23

*Galvanized tanks at Bridgeport and Little Rock showed corrosion.

GOOD PAVED ENTRANCES —

prevent damage to lawns, interiors

CARL A. SORG
Chief, Grounds Section,
Operations Engineering Branch,
Public Housing Administration

The greatest concentration of traffic outside dwellings is at front entrances and if paved platforms at doorways are small and inadequate and approach walks are narrow, serious damage to adjacent turf and planted areas will result. These damaged areas are likely to become mudholes in wet weather, dust bowls in dry weather, and to contribute, in no small way, to excessive damage to floors and painted interior surfaces. The early correction of design and construction deficiencies in paved areas will arrest the inevitable deterioration of adjacent lawns and planted areas and will aid greatly in keeping the most conspicuous areas of the project in neat and orderly condition at minimum cost.

Entrance platforms should be deep enough to permit a person to stand free beyond the edge of the screen door when it is opened outward at right angles to the wall of the building. This means that the platform must extend out at least 5 feet from the wall of the building. In width it should extend at least 12 inches beyond each side of the door frame.

Steps

The floor level of the platform should, generally, be not more than one step below the floor level of the dwelling. If steps are required to meet the grade of the approach walk, they should be as wide as the platform — or at least as wide as the door frame of single entrances and the full width of the platform for double or triple entrances.

When steps are wider than the approach walk, the walk should be flared on both sides to extend to each end of the bottom step. Flares should be installed so that the outer face edges are at a 45 degree angle to the edges of the walk. If an ogee (S type) curve is preferred to a 45 degree angle at the outer face edges of the flares, the radii of the convex and concave curves should be equal, as determined from the center line of the walk.

The concentration of baby carriages and wheel toys usually found interfering with the free flow of traffic on entrance platforms and approach walks may indicate the need for paved parking space off the sides of the approaches. Such space may be provided by the installation of paving at ground level on one or both sides of the entrance platform. The width of such paving should be approximately 30 inches, sufficient to park the average baby carriage. It should extend from the building wall along the sides of the platform and join the approach walk at grade to permit easy access from the walk.

In most instances, existing pavement may be extended to comply with dimensions suggested above by adding strips of new materials. This will require careful forming of materials to match, as nearly as possible, the existing work. Where existing work is in poor condition or where a change in grade or elevation is necessary, it usually will be more satisfactory to replace the entire pavement.

Inadequate and proper approaches to doorways are shown below. Note the worn areas and erosion in the top picture; the flared walk and full width steps in the picture below. A single step at doorways is preferred, however.

SITES — how to select, appraise

SELECTION

" . . . all new housing . . . should promote 'adequate family life,' whether built on vacant or redevelopment sites, by private builders, insurance companies, or public authorities, for high, middle, or low income families."

The joint site committee of the Philadelphia Housing Association and the Philadelphia Citizens Council on City Planning recently issued this statement, enumerating a set of policy guides for good site selection. Speaking specifically of public housing, the committee pointed out that, by virtue of its use of public funds, public housing has special responsibilities — and unusual opportunities — to further good planning standards. Special problems, too, arise from the fact that low-rent housing serves only a particular group. So the committee made the following recommendations:

1—Projects should be limited in size to 500 units, or about 2000 people, so that too large a concentration of a single income group in any area is avoided.

2—Every project should be or be able to become part of a whole neighborhood, rather than being isolated from other residential districts.

3—Land costs should be low enough to permit good site planning at low densities with adequate outdoor space.

4—Sites should be chosen that can be developed with units suitable for families with children — which means interiors designed for large families and individual yard space for recreation.

5—Sites should not be chosen in marginal areas.

6—Sites that involve special physical problems that lead to higher development and unit costs should not be used.

Pointers for All

In addition, the committee has a few general admonitions to *anyone* building new housing.

1—All new housing should help to build and become part of larger neighborhoods, which should be heterogeneous as to types and prices of dwellings to allow free choice of a place to live to all families, regardles of age, economic status, cultural background.

2—New housing should be located and planned to enhance the convenience of the city and its suburbs, rather than adding to traffic congestion and contributing to obsolescence.

3—Adequate space standards, both inside and out; convenience to schools, transportation, employment, and shopping; and plenty of sun, light, air, and trees should be part of all new housing.

4—All family members, from youngest to oldest, should be provided a good environment by new housing.

5—Overcrowding, either of buildings on land or of people in buildings, should be avoided.

6—Families with children should be provided with private yard space.

7—No new housing should be located near areas that might be subject to blight by such factors as industry, railroads, noise, smoke, traffic.

APPRAISAL

" . . . approximately 70 per cent of the properties involved in a clearance program should be purchased without the necessity of court action." This figure is the conclusion of an appraiser experienced in estimating values of large tracts of land divided between many owners. In an article in the April 1952 *Appraisal Journal* (official publication of the American Institute of Real Estate Appraisers), Jack Witkowsky, who worked with the Chicago Land Clearance Commission in acquiring the site for Chicago's first redevelopment project (see March 1952 JOURNAL, page 82), outlines the appraisal method he has worked out for condemnation sites. In recommending it, Mr. Witkowsky notes that it "will save the reviewing authority a great deal of time, should result in an overall purchase program consistent with the values of the properties involved, and finally will eliminate many lost lawsuits in cases where condemnation proceedings are necessary." A summary of the technique follows.

First step is to prepare a detailed map of the site showing by street address every individually owned property and indicating by colors the various types of structures it includes (e.g., cottages, two-family houses, multi-unit apartments, etc.). The map should embrace, if possible, several blocks around the periphery of the area.

Once the map is in order, a general inspection of the site is the next step. Such an inspection, which should be made on foot, aims to ascertain the area's general economic trend and something about the people who live there. As background material, the appraiser needs to know, specifically, where the inhabitants work, how much they earn, amount of government benefits they receive, and tax delinquency on the properties. He also needs to find out the physical characteristics of the neighborhood: age of buildings; transportation facilities; convenience to schools, churches, and recreation facilities; condition of streets, sewers, and sidewalks.

Assembling market data is the third step in the procedure. Here the appraiser wants to know, for each classification of dwelling noted on the map, the history of property sales: comparative sales prices — asking and offering — and terms of sale; rental information; and operating cost data. It is helpful to have this information not only on the area itself but on the blocks immediately surrounding it if they are of similar character. Complete data about the age, layout, size, and character of the dwelling should be listed with selling price. The body of information thus collected enables the appraiser to arrive at the market value of a "normal building" of each type.

Inspecting Structures

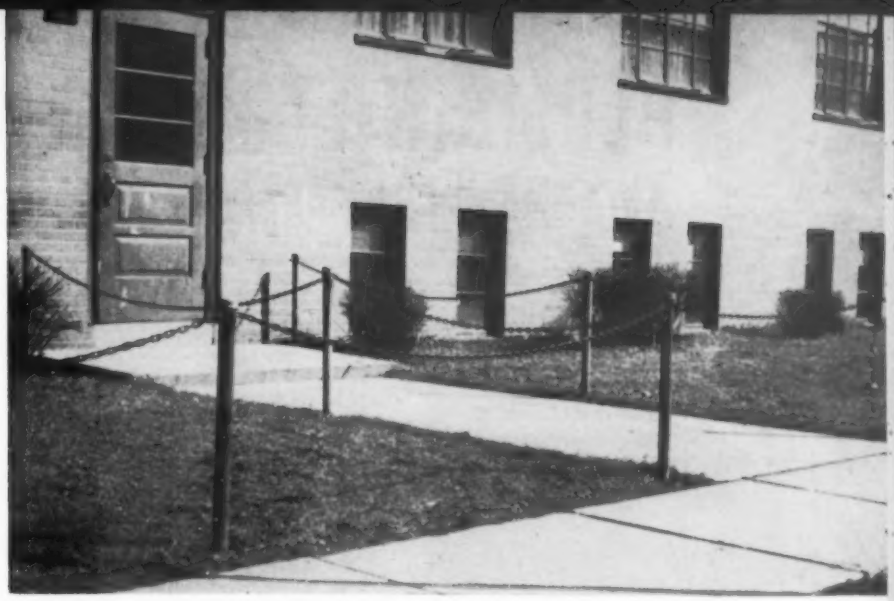
Equipped with his map, his knowledge of the area, and his market value estimates, the appraiser is now ready to make inspections of individual structures and come up with value estimates. Taking the buildings by type helps to insure uniformity in making judgments. Each building must be measured and inspected — preferably against a check list — and it is wise to record the estimated fair market value on the spot. Once the estimates are in hand, they should be checked against values arrived at on other bases, either an economic appraisal by depreciation schedules and where applicable the capitalization rate or by adding up the cost of reproducing the units. This check should show approximately the same values as the market study or a recheck of all processes is indicated.

Of the final step, preparing the report, Mr. Witkowsky says, "While the estimates of value may be almost perfect, it is the written report that gives them authority." The report should,

(*Continued column three, page* 181)

FENCES —

for every project need



Pictured on this page are several types of fences used by the Columbus Metropolitan Housing Authority. Experimenting with various kinds of barriers for different purposes over a number of years, the authority has finally hit upon three that are versatile enough to fill every fence need. Post and chain type, shown above, is used to protect lawns from corner cutters. Simple to erect and maintain, it will be less attractive to children if left unpainted.

The chain link fence, above, has been found to be especially suitable for enclosing play areas, basement stairways, and other special areas that require permanent barriers. It needs very little maintenance once erected.

Double strand wire cable fence, above, was first tried out to protect lawns from short-cut-takers. Later discontinued because it was found that children made short work of it, it was replaced by the post and chain fence.

Another in the series of barriers for landscaped areas that the authority experimented with is the 30-inch picket fence, above. Though it worked well, it was too expensive to maintain, so it, too, was discarded.

Snow fence, above, is used by tenants to enclose their yards and keep small children within. Finding that tenants wanted individual fences, the authority designed this one for uniformity. Its 18-inch height fences in toddlers only.

PLUMBING MAINTENANCE—

three ideas that help reduce operating costs

H. F. SPRINGHORN

Sales Manager, J. A. Sexauer Manufacturing Company, Inc.

In building and maintaining housing projects, plumbing installations represent not only a substantial percentage of the total initial cost of construction but also a large share of total operating costs. Aside from the expense of initial installation, maintenance of plumbing involves several costly factors: labor, plumbing fixtures themselves, and necessary maintenance materials. A maintenance program that does not properly train its laborers in good working techniques and supply them with good equipment; that does not conserve on fixtures, which are not only expensive but, under present day conditions of scarce materials, often hard to replace; and that does not choose its maintenance materials with care wastes thousands of dollars yearly in water, fuel, manpower, and equipment.

Hence, it is important for a housing authority to establish an efficient plumbing maintenance program. An intelligent and practical approach to such a program is to have a survey made of the plumbing system. The purpose of such a survey is to determine the correct type and size of each repair part required for each kind of fixture in use on a project and the total quantity of each item in use and subject to replacement. (See the check list below.) It provides a definite basis for setting up a complete and properly balanced stock of required materials. Thus, correct replacement parts will be available when needed and efficient repairs can be made quickly. The evils of trying to use misfit or substitute materials and the resultant waste of labor and material are eliminated and there is no danger of overestimating needs and overstocking on materials.

Once a proper list of materials to be stocked is established, the next step is to provide an efficient and orderly arrangement of the stock and a system of stock control to facilitate periodic replacement and insure an adequate supply of each item at all times. Such an arrangement should provide ready accessibility to all items and proper identification of each part so that selection and reordering are quick and not subject to error. A bottle rack provides a handy means of arranging jars, each of which should be labeled with the correct name, size, and catalog or stock number of its contents. For repair parts, an index file can be organized with a card for each part showing specifications and a record of purchases and use, as a guide for future stock buying.

A third idea that contributes greatly to accomplishing maximum efficiency in plumbing maintenance is to organize a systematized portable repair kit for maintenance mechanics (pictured below). The kit should provide a complete but moderate assortment of every item required for every type of fixture in the project to insure that the mechanic has the proper material at hand for any repair job. Efficient repairs can be made with the kit and it saves hours of time otherwise wasted

(*Continued column three, page* 186)

Property: _____ Management: _____

Address: _____ No. of Units: _____

Authorized By: _____ Title: _____ Survey Done: _____ 195__

Recommendations Submitted To: _____ On _____ 195__

CAT. NO.	SIZE	ITEM	IN USE
LAVATORY			
		Easy-Tite Washer	
		Bibb Screw	
		Handle Screw	
		Top Bibb Gasket	
		Top Bibb Fric. Ring	
		Bonnet Packing	
		Cap Thread Gasket	
		Basin Cock Washer	
		Chain Stay	
		Stopper	
		Stopper Key Ring	
		Beaded Chain	
		P. O. Plug Strainer	
		P. O. Plug Washer	
		Basin Gasket	
		Slip Joint Nut	
		Slip Joint Washer	
		Friction Ring	
		Fibre Trap Washer	
		Clean-Out Plug Washer	
		Speedy Connection	
		Rev. Slip Joint Washer	
		Friction Ring	
SINK			
		Easy-Tite Washer	
		Bibb Screw	
		Handle Screw	
		Top Bibb Gasket	
		Top Bibb Fric. Ring	
		Bonnet Packing	
		Cap Thread Gasket	
		Swingspout Packing	
		Swingspout Fr. Ring	
		Basin Cock Washer	
		Faucet Coupling Washer	
		Stopper	

CAT. NO.	SIZE	ITEM	IN USE
TOILET TANK			
		Blue Spot Tank Ball	
		Tank Ball Stem	
		Lever Wire	
		Overflow Tube	
		Adjus. Guide Arm	
		Flush Valve Gasket	
		Lea. F/V Shank Washer	
		Ball Cock Washer	
		Ball Cock Screw	
		Ball Cock Seat Cap	
		B/C Piston Packing	
		B/C Leather Cup	
		B/C Thumb Screw	
		Refill Tube	
		Float	
		Adjus. Float Rod	
		China Tank B/C Gasket	
		Lea. B/C Shank Washer	
		Tank Lever	
		Tank Hanger Screws	
		B/C Coupling Washer	
		B/C Slip Joint Washer	
		Friction Ring	
		Flush Elbow	
		Slip Joint Nut	
		Slip Joint Washer	
		Friction Ring	
		Ball Cock Coupling Nut	
CLOSET BOWL			
		Closet Spud	
		Closet Spud Gasket	
		Closet Spud Fric. Ring	
		Floor Flange	
		Balloon Fl.Flange Gasket	
		Closet Bolt Caps	
		Closet Bolts	

CAT. NO.	SIZE	ITEM	IN USE
FLUSHOMETER			
		Diaphragm	
		Cap	
		Main Seat Washer	
		Piston	
		Guide	
		Relief Valve	
		Relief Valve Washer	
		Relief Valve Spring	
		Cover Screw or Nut	
		Cover Gasket	
		Regulating Screw	
		Reg. Screw Packing	
		Handle	
		Handle Spring	
		Handle Plunger	
		Handle Packing	
		Handle Gasket	
		Chrome Outlet	
		Outlet Coupling Nut	
		Outlet Gasket	
		Slip Joint Washer	
		Friction Ring	
FLUSHOMETER STOP VALVE			
		Packing	
		Seat Washer	
		Seat Washer Nut	
SHUT-OFF VALVES			
		Easy-Tite Washer	
		Bibb Screw	
		Handle Screw	
		Top Bibb Gasket	
		Top Bibb Fric. Ring	

STRUCTURAL DEFECTS —

what not to do in building a housing project

Structural defects that raise maintenance costs and present potential hazards to tenants—the result of including bad construction features or of omitting good ones—are being "built into" some new housing projects. That was the opinion of the Chicago field office of the Public Housing Administration during a recent pre-occupancy inspection tour of some of the new developments in the area.

As a result of the inspection, the field office drew up a list of "what *not* to do's." The list below is only a part of the findings. While the items refer to conditions found currently in new developments, the pictures (also furnished by the field office) are of old projects and illustrate what can happen if such practices are continued.

Here is what the field office cautions.

1—Do not omit canopies over doors: it costs less to furnish the canopies originally than to maintain doors that don't have them.

2—Do not install vapor barriers on the "cold" side of walls.

3—Do not put insect screens on vents in attic and crawl spaces: tests show that fine screen reduces by one-half the effectiveness of vents; soon becomes clogged, rendering them completely useless. Since insects are no problem in such areas, ¼-inch mesh hardware is recommended instead of screen to keep out birds and rodents.

4—Do not omit flashing — or install inadequate flashing — beneath brick sills, coping tile, etc.

5—Do not use improper jointing or sealing material that causes condensate to leak from joints in transite gas vents.

6—Do not use door hardware that causes lock-outs.

7—Do not use linoleum — or any cemented material — on surfaces, such as sink tops, that come into frequent contact with water.

8—Do not use inadequate support for concrete stoops and slabs; settling will result. Supports should be carried to below frost line.

9—Do not run gas piping through foundations and under floor slabs. It is dangerous because pipes corrode, permitting gas to escape and follow the course of the pipe — eventually to explode. Recommended procedure is to have all piping rise above grade before entering structures and to have anti-corrosion provisions on gas pipe.

10—Do not pitch roofs inadequately so that shingles blow up; or if flat roofs are used, interlocking shingles or cementing of shingle tabs should be provided for.

11—Do not use wood items, such as posts, curbs, and bumper logs, that come in contact with the ground and soon rot and need replacing.

12—Do not use loose gravel on roads or parking lots: it is easily scattered onto nearby lawns and requires frequent replenishing, removal from sewers, catch basins, etc.

13—Do not use sand finished plaster. Though meant for a final finish to eliminate painting, in the long run it means higher maintenance costs because it is so porous and rough that it cannot be washed satisfactorily and stains badly.

14—Do not provide common facilities for garbage and trash: individual tenants have no responsibility for maintaining such areas and thus serious maintenance problems usually result.

15—Do not omit tenant storage spaces: lack of storage space is one of the chief causes of bad project appearance.

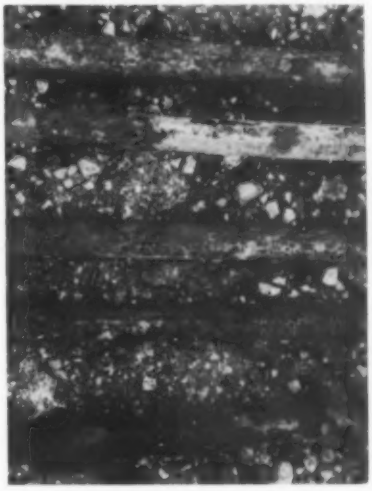
16—Do not surface play spaces improperly: gravel is dangerous and is quickly scattered; grass won't grow under heavy use.

17—Do not locate water pipes in exterior walls where they may freeze.

18—Do not fail to caulk adequately: open joints in siding create paint failures, structural rotting, etc.

19—Do not use water tables or "belt" members which get water logged and allow water to seep into buildings.

CORROSION . . .



CANOPIES . . .

VAPOR BARRIERS . . .

STORAGE SPACE . . .

GARBAGE . . .

LAKESIDE HOMES—

indoor and outdoor amenities at low costs

Built by Pontiac Housing Commission, Pontiac, Michigan

Otis Winn, Architect

Pate and Hirn and George Wagschal Associates, Collaborating Engineers and Architects

Waring and Johnson, Landscape Architects

Wayne H. Laverty, Planning Consultant

Lake breezes, plenty of sunshine, and a view of Pontiac's Crystal Lake are a few of the comforts of living that tenants of the Pontiac Housing Commission's first low-rent project will get when they move into Lakeside Homes.

Although the project is still under construction, first move-ins are scheduled for May. Construction was started in mid-1951 and is planned for completion by the middle of October of this year, according to Roy MacAfee, executive director.

Architect Winn, having a mother's work-day in mind, planned each unit so that kitchen and dining areas are oriented to face south — towards the lake (right foreground of picture top of next page). Not only do the "working areas" of each unit get plenty of sunshine and the prevailing breeze, under the architectural scheme, but the largest yard areas are in the rear of each dwelling, a convenience in keeping a careful eye on children.

The site, a triangle of 34 acres, has a river east of it, a school just across the river to the east, the lake to the south, and a municipal golf course nearby.

Pets Allowed

Managementwise, the project will deviate from the usual by permitting tenants to have pets. Chain link fences, however, will enclose individual backyards so that many of the problems of permitting pets in the project will be overcome. The commission, in deciding the policy of permitting pets, said it realized that pets will add to management problems but it believes "that the human factor weighs very heavily toward recognizing the need of children, as well as adults, to have their own pets."

The buildings, mostly two-story with a few one-story structures and with six to eight units in each, are wood frame with brick veneer, vertical wood siding, and asbestos siding shingles. First floors are concrete slab covered with asphalt tile; second story floors are hardwood. Concrete "sitting terraces" are provided for each unit. The management and community buildings, located at the southern tip of the site, are of painted cinder concrete block and also have concrete floor slabs with asphalt tile.

One of the eight-unit, two-story buildings, only partially completed, is shown above. A combination of brick veneer, vertical wood siding, and asbestos shingles is being used to provide color variety.

Large Families Welcomed

Large families will find plenty of space in the units, since 168 of the 400 units have three or more bedrooms. Ten units have five bedrooms each; 30 have four bedrooms; and 128 have one bedroom. Units average 5.035 rooms.

The project has been so planned that all units give parents and children space for social activities and in spite of the fact that most of the dwellings are two-story, provision has been made in some of all size units for families who have one or more members who cannot climb stairs.

Each unit has individual laundry space that has been combined with kitchen areas but which has been equipped with stationary laundry tubs and drying space. Sliding doors on closets are another feature of the project.

Costs

Average cost of the units is $9655, including dwelling units, land development, and a prorated sum for the management and community activities buildings for the project. Contract amount for the entire development,

An aerial view of the project shows Crystal Lake in the foreground, Clinton River above the project site, Bagley School just beyond the river, and a temporary war housing project in the lower left corner. A municipal golf course is nearby.

$3,861,875, is approximately 5 per cent below the budgeted amount, not including a 5 per cent contingency fund. Average cost of the dwelling construction is $7585, with $1654 for land development costs including grading, paved roads, walks, terraces, sanitary and storm sewers, water and electrical distribution systems, and landscaping. Cost per unit for the nondwelling structures is $415.

Equipment

Equipment and materials used in the project include:

KITCHEN RANGES—Tappan Stove Company

REFRIGERATORS—Nash-Kelvinator Corporation

KITCHEN SINKS AND CABINETS—Mullins Manufacturing Corporation

BATHROOM FIXTURES—Briggs Manufacturing Company

WATER HEATERS—General Water Heater Corporation

DOORS LOCKS AND HARDWARE—The American Hardware Corporation

WINDOWS AND SCREENS—F. C. Russell Company

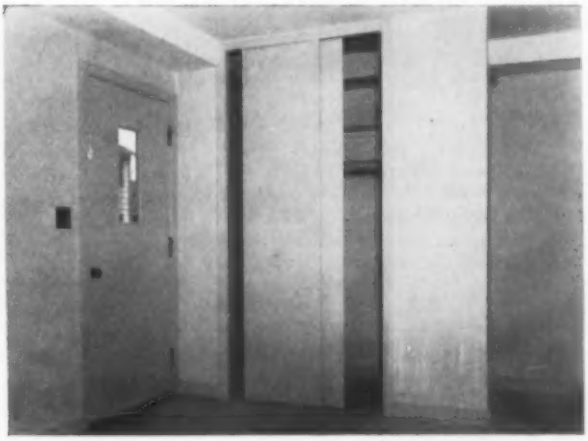
ROOFING—Philip Carey Manufacturing Company

FLOORING—Kentile, Inc., American Oleon Tile Company, and Armstrong Cork Products Company

HEATING PLANT—Bastian-Morley Company

Lakeside Homes will be run on an integrated, nondiscriminatory basis (see March JOURNAL, page 81).

Kitchen of a three-bedroom unit taken from the dining area. Note laundry tubs. Asphalt tile flooring is yet to be laid.



Entrance corner of the 16'-6" x 10'-2" living room of a three-bedroom unit. Hallway, right, leads to kitchen area.

STORAGE SPACE —
how much and where to provide it

Editors' note: The following, reprinted from the February 1952 issue of the NAHB Correlator with the permission of the editors and the author, was written with the small home buyer in mind. However, the points made in the article are equally applicable to rental housing — both public and private.

GLENN H. BEYER
Director, Housing Research Center
Cornell University

Several recent surveys made by our Cornell University research staff have shown that one of the features of the small home that appeals most to a buyer-prospect is adequate space for storing those thousand and one items that the average family keeps in the home. This is often as great a consideration in the purchase of a home as its location, design, terms, or the size of the lot.

The traditional manner of providing for storage is now obsolete; no longer can the builder provide "ample" space defined merely in terms of cubic footage. He can get by the minimum standards established by the FHA and financing institutions but not necessarily those being set up by many of today's home buyers and their families. New family standards are stressing the need for space in the right form and in the right location. Appearance, convenience of layout, and the general saving of steps and time are now a part of the home buyers' considerations.

Planning Tips

Following are some tips which take the planning of storage space out of the traditional framework and place it in line with today's concepts of home planning:

1—Active storage space should be provided in the place where it will be used (as against being permitted to fall in rooms where the builder finds the cubic footage); while seasonal and dead storage areas should be in an out-of-the-way location.

2—All storage spaces (whether shelving, closets, attic, or garage) should be thoughtfully designed for greater visibility and easy accessibility of items in order to reduce outstanding hazards and unnecessary consumption of energy. Dark corners, deep and narrow spaces, and shelving that encourages stacking and layering should be avoided.

3—Flexibility should be provided in storage space to take care of the growing family. A high percentage of home buyers are at an early stage in the family-life cycle and their space needs are apt to increase the first few years they are in the home.

4—Use built-in storage walls whenever feasible. Not only do these save the construction of a partition and replace the need for conventional storage furniture but psychologically they give a feeling of greater spaciousness to the room (even though it may not actually exist).

5—Studies have shown that families in the lower and middle income brackets store just as great a quantity of certain household items as families in the upper income groups. Equivalent space, therefore, is needed for such important items as groceries and clothing. (Difference between income brackets is quality, not quantity.)

6—The number of bedrooms demanded might be considered broadly as criteria for the number of dishes, amount of silverware, linen, and bedding; that is, the more bedrooms, the more storage space needed for these items.

7—Higher income families frequently prefer open storage for items having display value.

8—For kitchen storage the "work center" concept is gaining acceptance. This concept divides a kitchen into four or more specific centers and provides the proper storage space at those centers; for example, baking powder, spices, flour at the *mix center;* coffee, tea, and hot cereal at the *range center;* items requiring water to be added to them and cleansing supplies at the *sink center;* canned fruit, ready-to-eat cereal, Worcestershire sauce at the *serve center.*

There are as many as a dozen distinct and separate storage zones in the home, some of which are provided through furniture storage units:

1—Coffee and Macaroni Zone: this generally is the kitchen zone, incorporating the four work centers mentioned in paragraph 8.

2—Plate and Fork Zone: space also should be provided for linens.

3—Topcoat, Hat, and Boot Zone: space should be allowed for umbrellas, gloves, and outdoor clothing.

4—Suit and Dress Zone: conventional "closet storage" items including shoes, slippers, and clothes brushes.

5—Shirt and Sox Zone: conventional drawer or tray storage.

6—Sheet, Blanket, and Bathtowel Zone: conventionally the linen closet.

7—Carpet Cleaners and Broom Zone: vacuum cleaner, brooms, mops, waxes, and brushes.

8—Card Table and Rod and Reel Zone: also tricycles, taylor tot, guns, golf clubs, games, hobbies, and collections.

9—T.P. and Soap Zone: sani-flush, ammonia; also separate space for "plumber's friend" and toilet brush.

10—"Gone with the Wind" Zone: books, magazines, catalogues, records, and sheet music.

11—"Now and Then" Zone: waffle iron, thermos bottle, guest dishes, sewing materials, light bulbs; also, separate space for medicines, sickness supplies, and baby supplies.

12—"Catch-All" Zone: trunk, suitcases, electric fans, and those numerous other items for which families still demand storage space.

An analysis of these storage zones shows that the items fall into about three frequency-of-use groupings: (1) items generally used every day, such as groceries, clothing, and toilet articles; (2) items used every few days, such as games, books, and linen; and (3) items used only seasonally, such as sportswear, picnic supplies, and luggage.

Tying these three groups to the concepts listed at the beginning of this article, Group 1 items would be located in the most accessible areas, Group 2 items in moderately accessible areas, and Group 3 items in out-of-the-way areas.

In Short...

BUILDING THE STRUCTURE AROUND BOILERS TRIED IN NEW PROJECTS

Building the structure around the boiler equipment in new, big housing projects in New York City is an innovation being tried by both the New York City Housing Authority and some private builders. Instead of squeezing and twisting bulky boilers in through corridors or a wall left open for the purpose, the New York City authority is contracting to have the equipment placed in the open and later having the building put up around it. Although the new system has some disadvantages, contractors estimate that there are substantial economies in the method and that temporary heat becomes available earlier. "Sidewalk superintendents," weary of looking at mere excavations, have also taken a new lease on life, according to the builders.

BUFFALO STUDY SHOWS CONCRETE CHEAPER THAN STEEL FRAMING

Cost studies convinced the Buffalo Municipal Housing Authority that reinforced concrete was more economical than steel framing for its 616-unit project, Dante Place, now under construction. Although alternate bids on the two methods were not taken, a design for use of steel framing was drawn up by the steel fabricating industry and the American Institute of Steel Construction. On the basis of comparisons between the designs for concrete frames and steel frames, the housing authority determined that the reinforced concrete framing was the more economical method. At the time the studies were made, construction steel was plentiful.

SUBSTITUTES, CONSERVATION USED BY BUILDING INDUSTRY

Glass, ceramics, and other substitutes are being used to replace scarce metals in a wide variety of construction uses. Plastic water pipes; easily assembled sewer pipes that do not require lead caulking or expensive labor installations; a glass coated metal faucet that resists rust; laminated wood paneling stronger than most wood and cheaper than plywood; and a paint that will not chip or scratch were on display at the National Association of Home Builders convention in Chicago early this year as substitutes for critical materials. C. W. Smith, director of the housing research foundation of the Southwest Research Institute, warned, however, that substitute materials should not be used as an excuse to lower construction standards.

The director of defense mobilization in a report to the President late last year said probably the greatest amount of progress in conservation and substitution so far had been made in the construction industry. By redesigning certain types of structures, as much as 50 per cent of steel ordinarily employed could be saved.

USE OF MODULAR DESIGN CUTS CONSTRUCTION TIME ONE-THIRD

Modular design, materials, and drawings, plus careful selection of basic materials, resulted in economies in construction of an office building designed by architect Charles C. Hartmann of Greensboro, North Carolina. The mason foreman on the job estimated that modular drawings and materials speeded his work by one-third. Not a half dozen bricks had to be cut in the building process, he said.

WOOD TRUSSES SAVE 90 PER CENT OF CRITICAL MATERIALS IN ROOFS

Using wood trusses for general construction can save up to 90 per cent of metal otherwise required for roof construction, the National Lumber Manufacturers Association has pointed out in connection with the defense mobilization program. Lumbermen also point out that use of wood gutters, windows, garage doors, kitchen cabinets, etc., can conserve up to 100 percent of critical materials required for home building.

Technical and Maintenance Section

A round-up of current activities

Research questionnaires, information exchange work, participation in regional conferences, and plans for the annual conference are on the list of current activities that NAHO's Technical and Maintenance Section now has under way. In addition, members of the T & M Section and committee chairmen have cooperated with the JOURNAL in getting material for this special issue.

One of the most ambitious of the projects launched recently by the section is the research into methods and problems of painting, grasses, tree guards, underground corrosion, hot water heaters, and roofing. Questionnaires on each subject have been mailed to all T & M members and were also distributed at the recent Southwest regional conference in Mineral Wells, Texas. Information submitted as a result of the questionnaires will be analyzed and reports will be issued by the time of the NAHO annual conference in Buffalo. Rutcher Skagerberg, Washington, chairman of the Research Committee of the section, is in charge of the project.

Committees—Regions—Chapters

The Information Exchange Committee, headed by William Knop of Baltimore, is being organized into a large committee with nationwide representation. The committee members will be asked to submit material to be used in the JOURNAL. Information will be gathered by committee members on one problem a month, such as plumbing repairs, carpentry, glazing, extermination, etc.

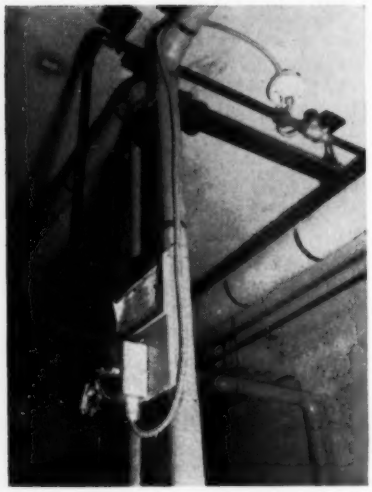
Technical and Maintenance members are also participating in two regional conferences by presenting expositions of operating problems and treatment methods and by conducting sessions at the North Central regional meeting in St. Paul in June, and at the Southwest regional conference in April.

In two parts of the country, local chapters of the T & M section are being organized—one in the Fort Worth-Dallas area and one in the San Diego area.

Members of the section also attended, as an "extra curricular" activity, a recent conference conducted by the Building Research Advisory Board on condensation control in buildings.

Meanwhile, officers and committee members of the section are at work making plans for T & M participation in the NAHO annual conference in October.

Hints to the Maintenance Man



DALLAS USES SAFETY LOCKS FOR GAS STOVES IN LAUNDRY

Pictured above is one of the locks installed on gas lines in laundry rooms of Dallas housing authority projects to restrict the use of gas stoves in the laundries to adult tenants. In order to turn on the gas, the line must be unlocked with the apartment key. Meant as a safety device, the lock is used to prevent gas from being left on when laundry stoves are not in use.

TECHNIQUE FOR REPAIRING CRACKS IN CONCRETE CANOPIES OUTLINED

Because concrete canopies over doors frequently develop cracks that permit water to drip onto porches and get into buildings, William Plum, Public Housing Administration structural engineer, has devised a simple method for repairing the cracks. His suggestions for the work follow:

1—Clean the crack with a brush or an air spray (from a bicycle pump, for instance).

2—Brush over the crack a coating 6 inches wide of "Priming Material Fatty Acid Pitch Base #438A" from the front underside of the canopy to the brick wall and up the wall for about 6 inches. Primer should be allowed to dry for 24 hours.

3—Over the primer, brush a coating of "Cement, Fatty Acid Pitch Base Plastic #278B" and in this embed a 4-inch strip of .002 aluminum foil. Apply another coat of cement over the foil and allow it to dry.

4—Finally, cover the repair with a coat of aluminum roof paint.

If the cracks are wide, first fill them with concrete. When it is dry, wash it with a 20 per cent solution of zinc sulphate. When this has dried, sweep off any crystals that have formed and then follow the above procedure.

ELECTRICAL TESTING BOARD IS EFFICIENT, SAVES TIME

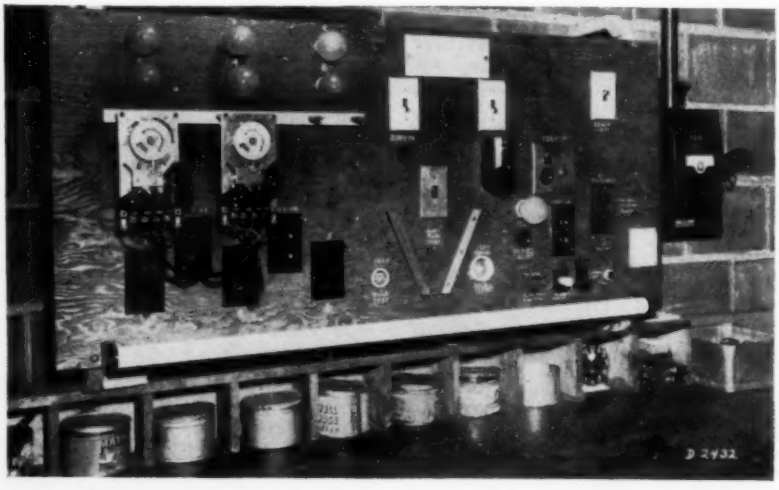
A device meant to save the electrician both time and energy in caring for the numerous pieces of electrical equipment on a project has been designed by electrician John Roman at Commodore Perry Homes in Buffalo. Pictured at the bottom of the page as it was displayed at the T & M Section exposition at the NAHO annual meeting in Washington last October, the device is a board that contains all the apparatus necessary to test every piece of equipment in the electrical system on the project. Although most projects have many if not all of these testing devices, frequently they are scattered around the shop and hard to locate when needed. With all of them collected on one neat panel, testing electrical parts can be done simply and efficiently.

Mounted about 12 inches out from the wall above the electrician's bench, the panel includes a bar for testing time clocks that work the project's outdoor lighting system—that's the complicated arrangement on the left half of the board (two clocks are in place and space for a third can be seen). Other devices test oven elements and ranges, motors, wattage meters, cartridge fuses, various sizes of bulbs, and fluorescent lamps.

MAINTENANCE MEN DESIGN TOOL TO CLEAN WATER VALVE BOXES

Two Portland, Oregon maintenance men—Charles Clinton, plumber, and V. O. Rider, garage mechanic—have designed and built the device pictured above for cleaning out the debris that collects in water valve boxes. These valve boxes, made of cement sewer tile, are about 8 to 15 inches in diameter and run down into the ground about 3 to 4 feet deep. Since the valve boxes are open at the top, considerable debris, such as stones and bottles, collects in them and makes it impossible to reach the water valve below.

The new tool, invented by Mr. Clinton and fabricated by Mr. Rider, consists of two semi-circular shovels hinged to the base of a 5-foot length of pipe. At the top of the pipe is a handle and operating lever for opening and closing the shovels. Handle operates to lock the shovels closed while a piece of debris is being removed.



COURTS RULE FOR PUBLIC HOUSING —

"battle" continues in Washington, local communities

The California and Montana supreme courts recently provided the "cure" for two cases of the newest real estate lobby fostered "disease" to hit public housing—the rash of ordinances cancelling previously approved cooperation agreements between a city council and its local housing authority.

In both cases—those of Los Angeles and Helena—the state supreme courts ruled that cooperation agreements between the city council and the local authority could *not* be rescinded, thus giving the two cities the go-ahead signal on their low-rent programs.

Meanwhile, on the national scene, the Independent Offices Appropriation Bill had become the battle ground for public housing on the questions of (1) how many units could be started in the next fiscal year and (2) whether or not local housing authorities would screen out "subversive" tenants.

In state legislatures, the battle over mandatory referenda on housing projects was practically a dead issue, with state after state where such bills had been introduced killing the measures. In local communities, however, referenda and delaying tactics were still being pushed by opponents of the program.

COURT CASES

The California supreme court handed down its decision on the Los Angeles case on April 28, declaring: "It was obviously never assumed and certainly it was not authorized by law that after the city council had declared the need, had given requisite approvals of a project under state and federal law, and had undertaken binding commitments, it would or could repudiate them. . . It is concluded that the law enjoins upon the city the duty to perform the terms of the agreements entered into with the housing authority and to go forward with the exercise of the powers which it has agreed to undertake in cooperating with the authority."

The California decision stems from the Los Angeles wrangle over its public housing program which reached its climax in December 1951 when the city council by an 8 to 7 vote passed a resolution cancelling its cooperation agreement with the housing authority. The housing authority immediately applied to the supreme court for a writ of mandamus asking the court to force the city council to go through with its commitments (see January JOURNAL, page 14 and March JOURNAL, page 79).

A referendum on the question of public housing in Los Angeles—another result of the city council-housing authority battle—is still scheduled for the June 3 ballot. In view of the supreme court decision, however, some authorities believe that the referendum will only be a "straw" vote; that the low-rent program in Los Angeles can go ahead regardless of the outcome.

Montana Rebuke

In announcing its decision, the California court cited the Montana supreme court decision handed down late in March. It resulted from the case of the Helena Housing Authority, which had entered into a cooperation agreement with the city for construction of 60 units of new low-rent housing. Bids had been called for on the project before opposition to it was organized. However, the city council later refused to issue a building permit for the project and passed an ordinance nullifying the cooperation agreement.

The unanimous decision of the state supreme court constituted a stinging rebuke to the city council: ". . . the attempt of the city council to rescind and revoke its cooperation agreement with the Helena Housing Authority was an attempt to avoid the solemn obligations of a contract freely entered into . . ."

In answer to testimony that the city commissioners had no knowledge that the resolution for the cooperation agreement found that there was a need for low-rent housing in the city and were not apprised of the fact, the supreme court said: " . . . public officials will not be permitted to officially pass resolutions making findings of fact and then impeach such findings by declaring that they had not read them and had no knowledge of their contents. If the members of the council actually passed and approved a resolution without knowledge of its contents, that certainly constituted a grave breach of public trust. Persons dealing with the City of Helena and depending on its contracts are entitled to rely on the presumption that the city officials are aware of the contents of their official declarations and have performed their official duties."

NATIONAL SCENE

Final decision on how many public housing units can be started in fiscal 1953—now set at 5000 by the House—awaits action by the Senate. Hearings on the Independent Offices Appropriation Bill by the Senate Appropriations Committee were scheduled for May 7 but no predictions had been made, when the JOURNAL went to press, on when the measure would come up for a Senate vote.

Briefly, the story on the battle for more than 5000 units of public housing starts in fiscal 1953 is this:

As had been predicted (see March JOURNAL, page 79), the House Appropriations Committee recommended 25,000 starts for fiscal 1953. On the House floor, when the bill came up for consideration, Representative Sidney Yates of Illinois offered an amendment to increase the number to 50,000. Representative O. C. Fischer of Texas immediately countered with an amendment to reduce the number to 5000 units and include the proviso in the committee recommended bill that would limit the Public Housing Administration's contractual power in future years to the amount approved in the 1953 appropriations bill. The Fisher amendment passed by a vote of 192 to 168.

Gwinn Amendment

The "surprise" in the House approved appropriations bill, however, was the rider inserted during committee deliberations by Representative Ralph Gwinn of New York that would prohibit payment of annual contributions by PHA on projects in which any units were tenanted by persons belonging to an organization listed by the attorney general as subversive. The amendment, although it has not become law, has already had the effect of can-

celling a sale of bonds for 73 local housing authorities scheduled for April 15. It was necessary to cancel the bond sale because investors would not buy the bonds as long as there was doubt as to the federal government's obligation to pay the annual contributions pledged as security on them.

NAHO Protest

In a letter from Clarence C. Klein, NAHO president, to Senator Burnet R. Maybank of the Senate Appropriations Committee, the Association went on record in protest of the Gwinn amendment and asked that it be removed from the bill. In his letter, Mr. Klein said:

" . . . While we are in complete sympathy with the maintenance of absolute loyalty to our country's principles for all government aided programs, this provision would seriously jeopardize the ability of local housing authorities to use private financing for their housing projects. The provision removes the unconditional obligation of the federal government to pay annual contributions on public housing projects. This removal would have the effect of increasing the interest rate for financing housing projects built by local housing authorities.

"We are also concerned about the effect this provision would have on the bonds already issued by local housing authorities. They were issued with the understanding that the federal government was contractually obligated to pay annual contributions. The provision in the present version of the appropriations bill would violate this contractual obligation . . ."

Other Opposition

Joseph McMurray, staff director of the Senate Banking and Currency Committee, in a speech before the Mortgage Bankers Association in New York, pointed out that if Congress approves the anti-subversive amendment for public housing legislation it will also be obligated to pass the same kind of legislation for FHA and VA programs. "Otherwise," he said, "Congress would be discriminating against poor Commies and letting the better-heeled comrades cash in on the taxpayers." *The Washington Post,* editorially branding the amendment as "absurd," asked why the loyalty test should not be extended "to cover all applicants for books in the public library or to all those who benefit from publicly supported trash collection."

Representative Albert Thomas of Texas, chairman of the House subcommittee on housing appropriations, told the House that the subcommittee had not had time for a careful study of the amendment and that the subcommittee had the right to throw out the amendment when the bill went to conference with the Senate.

STATE ACTION

Although the real estate lobby's efforts to kill public housing through state legislation demanding referenda on public housing programs had met with minor success in Virginia (see March JOURNAL, page 79), in four other states where such bills were proposed they had met resounding defeat.

New Jersey's so-called Hillary bills were declared officially dead when the New Jersey legislature adjourned April 4, although housing opponents had virtually admitted defeat earlier by withdrawing the bills.

First of the two bills would have forbidden a local authority from making any arrangements with the Public Housing Administration for a housing project until voters had approved a site for a project by referendum. It also limited referenda to general elections in November. When opposition to the bill became vocal throughout the state, a second Hillary bill was introduced that would have required a statewide referendum to determine whether the first Hillary bill should be passed.

Housing proponents countered the real estate lobby's tactics with widespread publicity on the bills, including distribution of two pamphlets, "Can You Afford the Slum Subsidy?" and "What's Wrong with the Hillary Bill?"

New Tactics

Apparently undaunted by the Hillary bill defeats on the state level, however, the New Jersey Lumbermen's Association, meeting in April, called for a federal law, patterned on the Hillary bill, to demand referenda on public housing.

In Michigan, a bill that already had passed the house requiring a referendum on any agreement containing exemption from taxation or providing for payment in lieu of taxes was killed by the senate committee considering it.

Arizona's bill, also passed by its house, was never reported out by the senate committee considering it and the state legislature adjourned March 27, thus killing the measure. It would have required a referendum on any new project or substantial alterations to an old one.

In Massachusetts, a referendum bill was referred to the next session of the legislature.

LOCAL TROUBLE SPOTS

May 6 was the date set to determine the outcome of new public housing programs in Akron, Ohio; Columbia, Missouri; and Cleburne, Texas, where referenda were scheduled. Elizabeth, New Jersey is also scheduled for a public housing referendum—but not until the November elections.

In Toledo, Ohio, the city council has voted to postpone until May 21 its decision on whether or not it will try to cancel its cooperation agreement with the housing authority. A committee will report back to the council on a study of the program at that time.

The mayor of Toledo is backing the program and the *Toledo Blade* editorially is supporting it, charging that real estate interests have organized, following the National Association of Home Builders prescribed pattern, to oppose it.

A suit to enjoin construction of a 172-unit project in Evansville, Indiana has also been filed against the housing authority.

Paris, Texas

In Paris, Texas, 200 units of low-rent housing have been the focal point of bitter fighting. The mayor of Paris, elected to the office by his fellow councilmen, early in the year removed from the housing authority board several commissioners favorable to public housing and replaced them with members who were opposed to the program. When the remaining proponents of the program on the board were in the minority, the chairman and long-time fighter for the program resigned, as did several other members. The mayor then filled the positions with still other opponents of the program. The city council, however, denying the mayor had the right to name the members of the authority without the council's concurrence, passed a measure ousting the new members of the board and restoring to their positions the pro-public housing members. The mayor offered his resignation shortly afterwards.

A second bombshell fell on the program, however, the day after the former commissioners of the authority were restored to their positions. Approximately 50 Texas construction companies received telegrams announcing that acceptance of bids on the Paris housing projects were postponed indefinitely. The chairman of the author-

ity said he did not know who sent the telegrams although they were "signed" by the authority. Consequently bid openings had to be delayed long enough to inform possible bidders that they *would* be opened on the day set.

SAN ANGELO PLAN

Other Texas opponents of public housing have a new "answer to socialized public housing" in the so-called $3000 San Angelo Plan for Low-Cost Housing sponsored by The Lumbermen's Association of Texas and described in a specially prepared brochure. The association's president said the house is being built in more than 100 Texas cities and the plan has been sold in 25 states and Canada.

The San Angelo house of 600 square feet has a 24'-8" x 9'-6" area intended for living room, dining room, and kitchen and two bedrooms, 9'-4" x 12' each. The brochure points out that "double bunks could accommodate as many as four children in either bedroom. A day-bed type divan, placed in the living area, could accommodate two more persons."

Closets

For the family of ten persons suggested in the brochure, all available storage space — for clothes, extra grocery supplies, household equipment such as vacuum cleaner, mops, pails, blankets and bedding, linens, repair tools, washing machine, etc. — is included in *one* closet 5' x 5'-5". The bathroom, which has doors opening to both bedrooms, is 5' x 6'-4".

There is only one door to the house; no heating facilities; no basement or attic; no place for laundry work other than the living-dining-kitchen area. Pictures of the house show insides of exterior walls as unplastered brick. Kitchen equipment shown at one end of the main room includes undersink cupboards only: "Decorative shelves above the sink in the modern kitchen are functional as well as colorful," the brochure reads.

Adjustments

The brochure declares that the "Federal Housing Authority" in Fort Worth has approved plans for financing "based on slight adjustments in specifications. These adjustments . . . add slightly to cost of original house . . ."

The lumbermen's association is selling a "complete kit" of plans and publicity material on the house for $100 each.

Box Score

PROGRAM UNDER HOUSING ACT OF 1949

PROGRAM RESERVATIONS APPROVED FOR NEW PUBLIC HOUSING

(As of April 4, 1952)

Applications	Units	States
1033	355,512[1]	44[2]

[1]Excluding cancellations
[2]Includes 39 states, the District of Columbia, Alaska, Hawaii, Puerto Rico, and the Virgin Islands

Source: PHA Weekly Progress Report

PRELIMINARY LOANS REQUESTED AND APPROVED FOR NEW PUBLIC HOUSING

(As of April 4, 1952)

	Requested	Approved by President
Localities	1015	988
Units	345,898	340,595

Source: PHA Weekly Progress Report

COOPERATION AGREEMENTS APPROVED BY PHA

(As of April 4, 1952)

Number	Units
938	340,824

Source: PHA Weekly Progress Report

APPROVED LOAN AND ANNUAL CONTRIBUTIONS CONTRACTS

(As of April 4, 1952)

Units	Projects	Localities
198,401	1083	632

Source: PHA Weekly Progress Report

PROGRESS OF PROJECTS

(As of April 4, 1952)

Site Approved	Construction Started — Units
1338	113,609

Source: PHA Weekly Progress Report

PROGRESS UNDER TITLE I (URBAN REDEVELOPMENT)

(As of March 31, 1952)

	Capital Grant Reservations	Preliminary Advances	Final Advances	Loan & Grant Applications Approved	Loan & Grant Contracts Executed
Cities	240	139	40	4	1
Amount	$187,677,583	$4,222,565	$2,491,929	$10,100,322	

Source: HHFA

FARM HOUSING

(As of March 31, 1952)

Applications Approved	Amount of Approved Loans	Borrowers Whose Work Is Under Way	Borrowers Whose Work Is Complete
12,949	$60,197,047	5572	5510

Source: Farmers Home Administration

Letters to the Editors

LHA RIGHT TO PICK BOND COUNSEL APPROVED

The recent experience with the April "sale" of local housing authority bonds should prove an effective argument against PHA's recent decision taking from the local housing authority the right to select bond counsel. The change in the long established practice under which local authorities select bond counsel cost housing authorities the expense of advertising, having proofs printed, the time expended in holding meetings, and the embarrassment of advertising a bond issue one day and cancelling it the next. This unfortunate and embarrassing experience is due to the fact that local authorities did not have bond counsel with whom to consult and who could have informed them of the possibly adverse effects of language in the appropriations act for PHA recently passed by the House of Representatives.

The language in question—that no annual contributions can be paid to the occupant of a public housing project who is a member of a subversive organization—puts a condition upon the payment of annual contributions on which the salability of the bonds depends. This amendment was adopted by the House of Representatives on March 21, ten days before the bonds were advertised for sale. During that ten-day period, had bond counsel been retained by the local housing authorities, they would certainly have warned the authorities and thus prevented the embarrassment and expense of advertising the sale on April 1 and cancelling the sale on April 2 at the direction of PHA.

John I. Robinson's letter in the March issue of the JOURNAL states the basic issues very clearly. The recent experience described above reinforces and substantiates the main point made by Mr. Robinson—that local autonomy in the selection of bond counsel is a more successful and workable policy. PHA's policy, permitting local housing authorities to recommend to the bidding syndicates that they use particular counsel is no solution to the kind of problem the April 2 cancellation brings to light. Local authorities should be allowed to name their own bond counsel with whom to consult as soon as they are included in a financing group.

Harold R. Taylor, Administrator, Urban Redevelopment Section, Somerville, Massachusetts Housing Authority.

SERIES OF CRITIQUES SUGGESTED

I was interested in Dorothy Cline's letter in the March JOURNAL with reference to Willow Run. I thought much the same way about Charles Marsh's book on *The Hampton Roads Communities in World War II* published by the University of North Carolina Press.

Would it be possible to have a series of critiques that would take care of all similar literature in the field of housing problems in congested production areas?

Frederick Gutheim, Washington, D. C.

SUGGESTIONS FOR PROJECT NAMES

It was indeed gratifying to learn that one of Chicago's public housing projects has been named for Harold L. Ickes. This is a well deserved tribute to one of public housing's staunch friends.

No doubt, New York will soon pay similar tribute to Mrs. Mary K. Simkhovitch.

But I hope the "housers" have not forgotten one of their greatest champions—Edith Elmer Wood.

An Oldtimer

"AROUND THE WORLD" JOURNAL PRAISED

The April issue of the JOURNAL OF HOUSING devoted to housing around the world looks mighty fine. We feel it should arouse much interest on the part of American housers and planners in housing programs being carried out abroad.

Jacob L. Crane, Washington, D. C.

I am much impressed with the international issue of the JOURNAL for April and particularly with the comprehensiveness of your roundup.

Frederick Gutheim

I thought you did a wonderful job of packing a lot of material in the April issue without making it seem at all packed. I don't see quite how you managed it and the net results were tremendous. You really created quite an impact by assembling all the information about the various countries between two covers—so much so that it occurred to me it might be worth-while to think about a session for the annual meeting on what we can learn about housing from other countries.

Mrs. Bette Jenkins, Detroit

My heartiest congratulations on the wonderful issue on "Housing Around the World." It is certainly a fine, well balanced, well presented job, obviously reflecting a lot of careful planning and hard work. In case you had seen my recent note suggesting this subject as one of the topics for the next NAHO annual meeting, you must have chuckled in view of the contents of the issue you had going to press!

Morton Hoffman, Baltimore

POINT IV RECRUITING HOUSERS

The Housing and Home Finance Agency is recruiting housing specialists for foreign assignment under the Point IV program to work on self-help programs in underdeveloped areas of Latin America, Africa, the Middle East, India, and Pakistan. Recruits will aid foreign governments to teach their nationals the skills necessary for improving shelter and village facilities and assist in all phases of housing and community development. Persons with training and experience in planning, architecture, housing economics, sociology, engineering, building materials development, and management are asked to apply.

Assignments vary in length from six months to two years. General and technical orientation on the program and country of assignment is provided before leaving the United States. Salaries range from $4323 to $12,700 per year plus living and travel allowances. To apply, send USCSC form 57 and inquiries to Dorothy Boyce, Employment Officer, Office of the Administrator, HHFA, Washington 25, D. C.

THE NAHO PRESIDENT'S CORNER

". . . FROM THE GROUND UP"

Not too many decades ago education, at least in higher institutions of learning, had as its primary objective the training of men for the "learned professions"; and the learned professions were invariably limited to but three vocational pursuits: divinity (the ministry), physik (medicine), and pedagogy (teaching). While no one would deny the importance of these great vocations, it must be evident that the broader concept of modern life brought about by recent progress no longer renders it feasible or sensible to consider these vocations alone as the end of all education. The great strides made in recent years in man's conquest of nature and natural forces and the increasing recognition of the close relationship between the control of natural resources and human well-being have resulted in widening horizons of educational objectives to include all the more practical activities: engineering (industrial, maintenance, and mechanical), accounting, architecture, business administration, building construction, agriculture, and a host of allied fields.

Broader Education

Nor has this widening of the educational field been without its political significance, for today the "world of the educated" no longer includes only a small "intellectual aristocracy" adorned by Latin and Greek but all who labor with good faith in any field related to human advance and progress. In short, democracy, too, has broadened — and properly so — to include in its industrial aspect, as well as its social, all honest, productive activity and to yield to the scientific farmer or the expert builder or the alert maintenance engineer a position of honor, respect, and dignity heretofore accorded only a few professions. We have learned that any successful society, however noble its ideals or aims, must be well and intelligently built "from the ground up."

The National Association of Housing Officials, too, has learned the importance of *all* activities in housing and redevelopment "from the ground up." Without in any way derogating the importance of administration and management, we realize the genuine worth of good construction, intelligent maintenance, and all those useful activities relating to the constant care and preservation of property and grounds.

T & M Purposes

Hence, the Technical and Maintenance Section of NAHO! Its purpose is well expressed in Article II of its by-laws: "The purpose of the section shall be to improve the physical and economic standards and practices in the engineering and technical aspects of the design, construction, operation, and maintenance of housing; to encourage and participate in research in those fields; and by conference, consultation, and publication to disseminate such information."

I like as well the less formal statement of the T & M Section's "founding father," Rutcher Skagerberg: "If we were to state briefly the paramount function of T & M, it might well be expressed in the two words 'plowing back.' It is only by plowing back some of the experience, knowledge, and philosophy we develop as we proceed that we shall keep the program strong and growing constructively." Membership in T & M, however, is not limited to those who are actively engaged in technical operations and maintenance or in design or construction of housing projects but is open, as well, to those who are administratively or technically responsible for such activity and to persons employed as architects and engineers in project design and construction.

The National Association of Housing Officials has already felt the benign impact of the T & M Section under the able chairmanship of Fred Kretschmar of Detroit. In the first place, it has stimulated membership among a most valuable group who may have felt at one time that our organization was exclusively administrative or managerial in interests. In the second place, the T & M Section has already engaged in a number of enterprises distinctly valuable to the field of housing and redevelopment, beginning with its extremely successful "Exposition of Housing Operating Problems and Treatment Methods" at the 1951 national annual conference in Washington, D. C. and most recently with its worth-while exhibition at the Southwest Regional Conference in Mineral Wells, Texas in April. Its committees are alert, its *Newsletter* informative, and its exhibition to be held in St. Paul, June 2 and 3 during the North Central Regional Conference may well set a new high in the exhibit portrayal of technical and maintenance techniques. As the T & M Section properly expands into regional and local suborganizations, the realization of its benefits to the whole field of housing and redevelopment will become more and more apparent.

Membership

Membership in the Technical and Maintenance Section is only $3 beyond the normal fee for NAHO membership. I realize the many financial demands upon all of us but I know of no better investment in a richer reservoir of useful technical and maintenance experience than the payment of these dues. For those of you who are eligible and who see beyond mere administrative planning, broad policy making, or general management techniques and who believe in a constructive vision of housing "from the ground up," the Technical and Maintenance Section offers a real opportunity for professional growth and progress. Join it today!

Clarence C. Klein, May 1952

CROSS-WALL—

(*Continued from page* 163)

traditional three-room cottage house.

One difficulty with the system is that it dictates to a certain extent the type of floor plan that is possible rather than allowing the more usual freedom of planning. Mr. Bunton notes, however, that this limitation means that designers will have to be more ingenious in their plans.

Association News

Two new NAHO chapters—Great Lakes and the Alamo Area—chartered this spring, are growing evidence of grass roots participation in the Association's program.

Clarence C. Klein, NAHO president, who has been urging individual participation in the NAHO program both through chapters and regional councils, as well as through the national organization, soon will name a national Chapter Committee to assist existing chapters in developing programs and to suggest ways and means of getting additional chapters started.

ALAMO AREA

Henry Gonzales of San Antonio, as president of NAHO's newest chapter —the Alamo Area—accepted the charter officially recognizing it from Mr. Klein during the Southwest Regional conference in Mineral Wells in April. NAHO Executive Director John D. La ge congratulates Mr. Gonzales in the picture left, below. The Alamo Area Chapter includes members from local authorities as well as other housers within a 100 mile radius of San Antonio.

Other officers of the newly formed chapter are: VICE-PRESIDENT—*G. Weidler,* Victoria; TREASURER—*Harmon Hodges,* Austin; SECRETARY—*Sadie Wong,* San Antonio; EXECUTIVE COMMITTEE—*J. D. MacDonald,* San Antonio; *Clara Lynch,* San Antonio; *J. Osburn,* Austin; *Kyle Paul,* San Antonio; and *Paul Flowers,* San Antonio.

GREAT LAKES

Mrs. Bette Jenkins of Detroit was named president of the Great Lakes Chapter at its April meeting at Oakdale Gardens in Ferndale, Michigan. The chapter was chartered this spring.

Plans for chapter meetings thus far include a discussion at the May 14 meeting of "Design of Public Housing Projects in Large Cities and in Smaller Urban Areas" with architects Otis Winn and Amedeo Leone of Detroit the featured speakers. At the June meeting of the chapter, members will hear a report of the North Central Regional Conference to be held in St. Paul June 2 and 3.

Featured at the April meeting was a "town meeting" question and answer period led by Mark Herley of Detroit. Panel experts were McClinton Nunn and Dr. Robert Pulley of Toledo; Roy MacAfee of Pontiac; George Bauer of Wayne; Marion Wilson of Willow Run; Porter Dillard, Fred Kretschmar, and Thomas Trahey, Detroit.

Other officers elected at the April meeting were: VICE-PRESIDENT—*Mr. Nunn;* RECORDING SECRETARY—*Miss Marie Riesterer,* Detroit; CORRESPONDING SECRETARY—*Alice Bilski,* Detroit; TREASURER—*Stanley Wojcik,* Hamtramck.

NORTH TEXAS

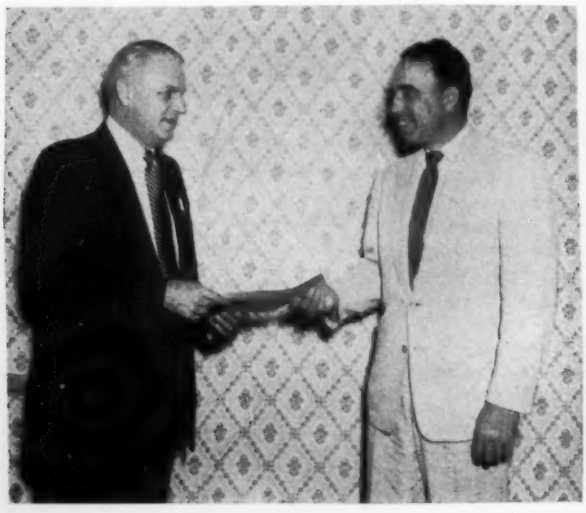
"Nick NAHO" in his home region—the Southwest—and in the North Texas Chapter, where membership applications are booming this year, is doing a fighting job for NAHO. The North Texas Chapter now boasts 214 members. "Nick" is shown below in his fighting togs—with Southwest regional membership chairman Joe Mulcahy of Dallas and Dick Jones of the Forth Worth field office of the Public Housing Administration. The picture was taken at the Southwest Regional Conference in Mineral Wells where "Nick" was hard at work on memberships. He has also now been cast in ceramics. Mr. Mulcahy is the outgoing president of the North Texas Chapter and Mr. Jones is one of the incoming members of the executive committee.

Officers elected for the 1952-1953 chapter year at a meeting in early April are: PRESIDENT—*Elmer McClain,* Dallas; VICE-PRESIDENT—*Clifford Johnson,* Fort Worth; SECRETARY—*Lillye Simmons,* Dallas; TREASURER—*Lee Bailey,* Avion Village; EXECUTIVE COMMITTEE —*Mr. Jones; Eleanor Scoma,* Fort Worth; and *James Miller,* Dallas.

POTOMAC

NAHO President Clarence C. Klein was the featured speaker at the March luncheon session of the Potomac Chapter. Mr. Klein, who is administrator of the Housing Authority of the City of Pittsburgh, talked on "The Drama of the Golden Triangle"—the story of the redevelopment of one of Pittsburgh's blighted areas. He told of the cooperation and parts played in the "drama" of rebuilding the area by the city's redevelopment agency, the housing authority, city planning commission, and other city agencies involved.

Two other luncheon sessions have been held during the year, as well as a series of round-table discussions. Wallace J. Campbell, director of the Washington office of the Cooperative League of the USA, and Warren J. Lockwood,



REGIONAL CONFERENCES

Watch for reports—in word and picture—of the April and May annual regional conferences in next month's JOURNAL.

Members of the Middle Atlantic Region, meeting at the William Penn Hotel in Pittsburgh May 22 and 23 will get a first hand view of Pittsburgh's "new face"—the result of its redevelopment and housing programs. A full program is planned.

The Pacific Southwest Region will meet at the Hotel Coronado in Coronado, California May 25-28 and the North Central Region at the Hotel St. Paul in St. Paul June 2-3. The New England Region opens its conference in Providence May 19.

assistant commissioner of the cooperative housing division of the Federal Housing Administration, were the featured speakers at the January luncheon at which they spoke on "Successes and Failures of Cooperative Housing." Charles Abrams of New York, speaking on "Human Values in Slum Redevelopment," was featured at the November session.

Eight round-table meetings have been held during the chapter year with the ninth and final scheduled for May 14. All of the sessions have been held in the evening.

Discussions have covered such topics as the place of housing in a defense economy; how production is meeting total housing needs; eliminating substandard housing—quality standards and enforcement; the neighborhood environment for housing; technical changes in design and construction; home financing; and the machinery of federal assistance and guidance. The May 14 discussion will have as its topic housing policy and industrial dispersion.

TWIN CITIES CHAPTER

A "triple topic" discussion program is planned for the coming year for the Twin Cities Chapter, which made plans for its program at the same time it elected new officers recently.

George F. Johnson, St. Paul, and Robert E. Klarquist of Minneapolis were named co-chairmen of the group for the coming year and Martin Chorzempa of Minneapolis was elected secretary-treasurer.

Three general subjects are planned for the year's discussions: (1) the individual family—intra-family problems, special problems of welfare recipients, financial dilemma of a family with earnings on the margin of a relief budget, and control of deviates; (2) the housing neighborhood in the community—project families as a social group, relationships within the project and the city, and the relation of the project to city planning; (3) technical and maintenance — care of buildings and grounds, equipment and maintenance, incinerators, and functional efficiency of the architecture and landscape.

Personals

BERNARD LOSHBOUGH,
after a short stay in the United States, has returned to India to become deputy country director in charge of community development projects under the Point Four program. Fifty projects are planned for 1952. Mr. Loshbough first went to India in December 1951 on a 90 day assignment under the Point Four program to recommend on resettlement and housing problems (see January JOURNAL, page 34). At that time he was on leave from his position with the National Security Resources Board as director of housing and community facilities. He has now resigned that position.

WILLIAM V. REED,
vice-president of IBEC Housing Corporation of New York City and part-time director of the National Security Resources Board's housing and community facilities branch, is the author of an article that appears in the April 1952 issue of *United Nations World*, proposing a world housing bank. In this article, Mr. Reed proposes a world housing bank, patterned along the lines of the International Bank, to finance building of new homes throughout the world.

MRS. SIMON KUHN,
one of the founders and trustees of the Better Housing League of Cincinnati and a leader in the civic, cultural, and philanthropic life of Cincinnati, died there in April. Mrs. Kuhn was voted the city's "outstanding woman of the half century" by the Better Housing League several years ago.

MRS. JENNIE GROSKIN,
supervisor of resident aides for The Philadelphia Housing Authority, is serving as president of the Pennsylvania Congress of Parents and Teachers. As such, she also serves as a member of the governor's committee on children and youth.

LOUISE P. BLACKHAM,
who for some years was in charge of social and community relations for Hillside Housing Corporation, a PWA-limited dividend project in New York City, has recently been appointed executive secretary of the Civic Unity Council of Seattle. Miss Blackham also was for a time with UNRRA in Yugoslavia. She reports that everything she has always heard about the Pacific northwest is turning out to be true: it's wonderful!

WILLIAM H. HEALEY
has been appointed land technician in the eastern area for the division of slum clearance and urban redevelopment of the Housing and Home Finance Agency. Mr. Healey formerly was assistant director of real estate and disposition with the Public Housing Administration, serving in the Boston, New York, and Philadelphia field offices at various times.

CHARLES ABRAMS,
well known housing author and lecturer, has been retained by the United Nations to write a report on international urban land problems.

BARTON P. JENKS,
former Housing and Home Finance Agency staff member and most recently in Geneva, Switzerland at the American consulate serving as a member of the American delegation on the housing subcommittee of the Economic Commission for Europe, has joined the United Nations Korea Reconstruction Administration as housing adviser.

ALVAH J. WEBSTER,
formerly with the Massachusetts State Housing Board, has recently been appointed a housing and shelter specialist on the Technical Cooperation Administration staff in Lebanon. He left for Beirut on March 9.

DONALD HANSON,
former executive director of the Indianapolis Housing Authority, makes up a two-man housing and community organization team with Hector Garcia-Cabrera of San Juan, Puerto Rico that will work through the dependent territories of the Caribbean for the Caribbean Commission. They will be attached to the office of the secretary general in Port-of-Spain, Trinidad. During March, they were in Washington attending the Foreign Service Institute and being briefed by HHFA and the State Department, who "backstop" the Caribbean Commission.

FREDERICK J. ADAMS
has returned from a Point Four assignment in India, where his firm of Adams, Howard and Greeley had a contract with HHFA to study the planning of the new city of Gandhidham.

CARROLL HILL, VANCE LISCHER
of Harland Bartholomew Associates have returned from Karachi, where they were studying a sewer and water project under a Technical Cooperation Administration contract supervised by HHFA.

DON LAIDIG, CARL BEHRENS
have taken assignments with the Institute of Inter-American Affairs to work on a Point Four program in Latin America. Mr. Laidig is on leave from the international housing activities staff of the office of the HHFA administrator until the assignment is completed. Mr. Behrens is on loan from the Federal Deposit Insurance Corporation.

SITES—

(*Continued from page* 166)

therefore, include a general description of the physical and social characteristics of the area; maps showing schools, transportation facilities, and shopping areas; description of each property in terms of age, construction, size, layout, and utility; a good photograph of each property; market data on sales and rentals; and summaries of the methods used to check the original estimates.

Selected
RECENT PUBLICATIONS

TOWARD NEW TOWNS FOR AMERICA, by Clarence S. Stein. 1951. 235 pp., illus. $5. The University Press of Liverpool; agents for the western hemisphere—Public Administration Service, 1313 East 60th Street, Chicago 37, Illinois.

Although Clarence Stein has named his book *Toward New Towns for America,* it is really a book about people — and that is why I put it at the top of the list of required reading for anyone who has anything whatsoever to do with planning housing developments.

Man has become the forgotten element in housing. He is the only element in the equation with vocal powers and yet he can't speak for himself. If anything has to "give" in the planning of a housing project (and something always has to), it is the convenience of the occupant. More and more we see houses shrinking in size, being crowded on smaller lots, and omitting essential amenities in a one-sided compromise with expediency and lack of intelligent planning.

Clarence Stein takes you by the hand as you read his book and leads you through the very best community developments built in this country in the past 25 years. He stops at the corner of a building, makes you look around and sense the spacing of the buildings, makes you realize the importance to the occupants of your decisions when, as a planner, you move a building ten feet this way or that.

Clarence Stein never seems to be planning to achieve a beautiful paper pattern. He never bows to the cliches of modern architecture or gets mixed up in the stereotyped formulas of the past because his entire professional career has been spent in planning housing for the people who will live in it. His outlook is always searching and always mature. By keeping the scale figure of human behavior always in the forefront of his planning, he avoids the unpleasant austerity and stupidly generated inconveniences that characterize much of the large-scale housing of the last ten years. The communities to which he has contributed are beautiful, not because of architectural or planning "effects" but because they create a housing environment that is beautiful.

For students of planning, the chapter titles read like a roster of old friends — "Sunnyside Gardens," "Radburn," "Chatham Village," "Hillside Homes," "Greenbelt," "Baldwin Hills Village," etc. For each, Stein tells us how the development started, what the objectives were, and then he describes the planning process in great detail. After he has taken us inside and outside the buildings, he sits down and re-analyzes what we have been reading and presents a valuable set of conclusions. Despite his emphasis on the occupants of the houses, he never loses sight of costs.

The chapter on Radburn is fascinating from the planner's point of view because Radburn is the real forerunner of much of the best work that has been done in this country. I think Stein is misleading when he says that Radburn was a "financial failure." True, he qualifies this by saying "as a result of the depression," but I feel that such a statement may imply to some readers that the financial distress of Radburn was in some way related to its plan. The fact of the matter is that all real estate ventures caught in the market collapse of 1929 encountered difficult times. Today the values built into Radburn by Clarence Stein and Henry Wright and their partners have given the community a security against depreciation in value almost unmatched anywhere.

The only other point in his book on which I would take issue with Clarence Stein is his generalization that "a rental rather than a sale policy . . . offers more security and freedom to most American families of moderate means." Conditions of rental and of sale fluctuate a great deal and one cannot always assume that rental housing offers as great security as home ownership. As patterns of living, the two are not always comparable and should not be so considered.

The photographs in *Toward New Towns for America* are excellent and so are the plans used as illustrations. Sometimes the latter are rather small in scale but that is a limitation that can be accepted quite readily because of the generous number of illustrations used.

The book is packed with valuable information and one cannot help wishing that it could have been published in time to influence the postwar rash of badly planned housing projects.

William V. Reed, New York

SOCIAL POLICY & SOCIAL RESEARCH IN HOUSING. 1951. 187 pp. $3. Association Press, 291 Broadway, New York 7, New York.

Collaboration between "housers" and social scientists has a long and honorable history both in this country and abroad. In calling attention to the evils of slums, in educating the public to the need for action, and in the political struggles for housing legislation, social research has played a vital part in housing reform. Now housing officials are confronted with new problems — those of planning, design, construction, and management. *Social Policy and Social Research in Housing* points the way toward a new stage of collaboration in solving these problems.

Some housing authorities have contented themselves merely with the construction and management of "safe and sanitary housing." Even this relatively simple operation involves manifold problems. But an overwhelming majority of our authorities, and some private builders, have recognized that the provision of shelter involves grave responsibilities for the lives and welfare of present and future citizens. Is this project too crowded? Are these apartments large enough? Is the play space adequate? Should low-income families be put in elevator apartments? These are a few of the questions with which housing officials are currently concerned.

Some housing authorities have turned to the social scientist for answers to these questions. They have learned that the expert cannot tell them what kinds of housing projects to build. In *Social Policy and Social Research in Housing* they can find many examples, however, of the kind of problem that social science is prepared to study and of the ways in which social research can assist in housing policy formation. It is must reading, both for the social scientist interested in housing and planning and for the far-sighted housing official who wishes to use social science expertise in his program.

Catherine Bauer summarizes the major social issues in housing and city planning in the first article of the symposium. Speaking for housing officials, she raises the questions of location, density, dwelling type and size, social composition and the like, which are familiar problems to many authorities. Others, of equal importance even though they are sometimes less obvious, include questions concerning mobility, privacy, the journey to work, and neighborhood character. The article should become a sort of checklist for evaluating the adequacy of our own concept of the housing job. In addition, it poses the problems of social research, indicating the areas for high priority study by social scientists.

The second part of this symposium consists of a series of articles summarizing the present status of research in several fields, presenting specific research results, and sometimes attempting theoretical formulations. The coverage is quite wide, including, among others, interesting contributions on the "filtering down" process by Ernest Fisher, the social cost of slums by Jay Rumney, social stratification in neighborhoods by William Form, and the influence of architectural design upon social attitudes and behavior by Svend Riemer, Leon Festinger, and Stuart Chapin. Each of these articles illustrates the kind of research being done in a particular subject field and the types of problems considered researchable by the social scientist. They emphasize both the possibilities and the limitations of social research.

Social scientists, as social scientists, cannot solve any of the major policy problems in housing and planning. They cannot tell us, with scientific authority, what kind of housing projects to build, where to put them, or how to manage them. The housing official who expects "answers" in this sense is doomed to disappointment. On the other hand, many social scientists, as informed individuals, can make substantial contributions of judgment to housing policy formation and, if called upon, can produce research results that will help enormously in policy decisions. *Social Policy and Social Research in Housing* is a milestone in clarifying this relationship between housing policy and social research.

Under the planned conditions available in large-scale housing and redevelopment projects, important and fruitful research is possible. It may tell us, for instance, not whether we should build elevator apartments or row houses but what the effect of each will be upon family organization. In cannot prove that one project is too large or another too small but it may tell us the effects upon community participation and neighborhood relations of one size or another. Social research, in short, may be able to describe the effects of a given policy, to reveal the hidden consequences of housing programs, to provide a more sound basis for future decisions. This will take time and effort. This volume, a double issue of the *Journal of Social Issues,* reveals some of the ways in which we can move toward that objective. It deserves the attention of all concerned with housing problems.

William L. C. Wheaton, Cambridge, Massachusetts

DESIGN OF INSULATED BUILDINGS FOR VARIOUS CLIMATES, by Tyler Stewart Rogers. 1951. 119 pp., illus., tables. $5.50. *Architectural Record*, 119 West 40th Street, New York 18, New York.

Heat control, vapor control, and ventilation problems in relation to climate areas and their solutions through design and insulation are analyzed in this attractively prepared book. The first part deals with the principles of heat and vapor control and ventilation and with the three major climate zones in the United States. In the second part, design standards for good insulation and how to use "time saver" design tables are discussed. The recommendations and practices outlined in the second part of the book are all related to the three climate zones to make it a practical book for every geographic area of the country. Also covered are the practical design of roofs and ceilings, walls, and floors, and the book concludes with charts on design calculations for heat and vapor controls and for structural ventilation of insulated spaces.

FOURTEEN SPLIT-LEVEL HOUSES DESIGNED FOR SOLID-FUEL HEAT. 1951. 16 pp. 50 cents. Small Homes Council, University of Illinois, Urbana, Illinois.

The Small Homes Council shows that a split-level house that has three basic floor levels (living, utility, and sleeping) is well suited to the use of coal or coke in heating. This booklet presents 14 such house plans drawn by an architect.

HEATING THE HOME. 1951. 12 pp., illus. 10 cents. Index Number G3.1. Small Homes Council, University of Illinois, Urbana, Illinois.

Engineers from the university's engineering experiment station discuss in this booklet requirements and types of various heating systems for small homes.

BUILDING CODES AND CONSTRUCTION PROGRESS. 1951. 28 pp. 50 cents. Chamber of Commerce of the United States, Washington 6, D. C.

The construction and civil development department committee of the national Chamber of Commerce in this booklet makes some recommendations on how to achieve modern building codes. It recommends state enabling legislation for building codes that would require (a) that municipal building codes permit the use of any material or method of construction that meets minimum standards of performance, (b) periodical review of municipal codes to keep them up to date, (c) municipal adoption by reference of nationally recognized codes, and (d) legal remedies to persons aggrieved by the code or its administration. A model state building regulation act is included.

DIRECTORY OF BUILDING RESEARCH AND DEVELOPMENT ORGANIZATIONS IN EUROPE. 1951. 114 pp. 75 cents. United Nations sales number 1951.IV.5. United Nations, Geneva, Switzerland.

Organizations concerned with building research in European countries are listed in this booklet and a brief synopsis of the type of projects the organizations are engaged in is given. Research groups engaged in general studies, specialized studies, and others concerned indirectly with building research are listed. The booklet has been prepared by the secretariat of the United Nations Economic Commission for Europe.

Housing Statistics

PERMANENT NONFARM HOUSING STARTED

	1952	1951
March	98,000	93,800
First three months	243,000	260,300

Source: Bureau of Labor Statistics

DOLLAR VALUE OF NEW NONFARM RESIDENTIAL CONSTRUCTION

	1952	1951
March	$ 772,000,000	$ 822,000,000
First three months	$2,155,000,000	$2,465,000,000

Source: Bureau of Labor Statistics and Department of Commerce

RENTAL-TYPE HOUSING STARTED

(Total two- and multi-family)

	March 1952	First three months 1952	March 1951	First three months 1951
Number	20,700	44,300	15,400	43,500
Per cent to total	21	18	16	17

Source: Bureau of Labor Statistics

PUBLIC AND PRIVATE HOUSING STARTED

	March 1952	First three months 1952	March 1951	First three months 1951
Private	86,000	225,000	90,100	248,800
Public	12,000	18,000	3,700	11,500
Total	98,000	243,000	93,800	260,300

Source: Bureau of Labor Statistics

URBAN AND RURAL NONFARM HOUSING STARTED

	March 1952	First three months 1952	March 1951	First three months 1951
Urban	55,100	131,000	51,200	147,800
Rural nonfarm	42,900	112,000	42,600	112,500
Total	98,000	243,000	93,800	260,300

Source: Bureau of Labor Statistics

DOLLAR VALUE OF NONFARM MORTGAGES RECORDED

(In amounts of $20,000 or less)

	1952	1951
February	$1,270,908,000	$1,182,753,000
First two months	$2,569,162,000	$2,513,836,000

During February, FHA home mortgage insurance under all titles totaled $128,447,000. Also during February, GI home loans guaranteed by the Veterans Administration amounted to $242,103,000. FHA and VA combined accounted for 29 per cent of total recordings.

Source: Home Loan Bank Board, Federal Housing Administration, Veterans Administration

NUMBER OF NONFARM MORTGAGES RECORDED

(In amounts of $20,000 or less)

	1952	1951
February	219,124	213,261
First two months	440,656	448,217

Source: Home Loan Bank Board

LARGE-SCALE PROJECT HOUSING FHA MORTGAGE INSURANCE

(Under Titles II, VI, VIII, and IX)

	March 1952	First three months 1952	March 1951	First three months 1951
Number of projects	15	51	44	137
Dwelling units	2,358	7,832	7,629	17,726
Dollar amount	$19,389,800	$61,393,500	$61,646,866	$140,141,519

Source: Federal Housing Administration

AVERAGE HOURLY EARNINGS OF BUILDING CONSTRUCTION LABOR

(Includes earnings of off-site labor and labor on public construction)

	1952	1951
January	$2.280	$2.135

Source: Bureau of Labor Statistics

INDEX OF WHOLESALE PRICES OF LUMBER AND WOOD PRODUCTS

(1947-1949=100)

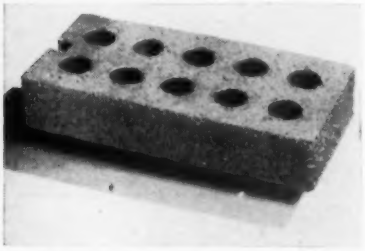
	1952	1951
March	120.5	126.6*
First three months average	120.3	126.2

*Revised data do not replace the former indexes (1926=100). The new official index (1947-49=100) began January 1952.

Source: Bureau of Labor Statistics

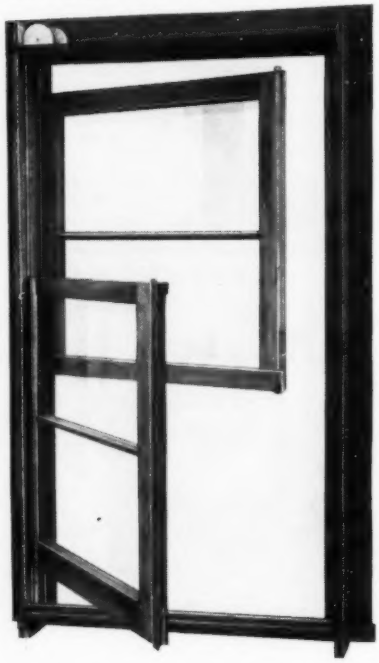
New Construction Products

BUILDING BRICK—JOH-01



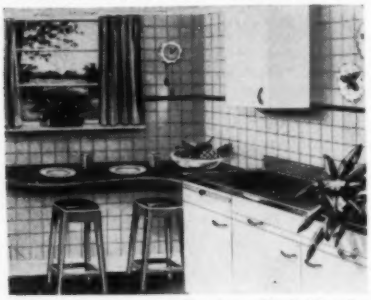
Designed to "drastically reduce the cost of masonry construction," a new brick, pictured above, that is expected to bring the advantages of brick construction within the price range of good frame building has been announced. Called the *SCR brick,* it has been approved for one-story load bearing walls and is currently undergoing tests for use in walls higher than 9 feet. Features of the brick include symmetrical coring of ten holes, each 1⅜ inches in diameter, which reduce the weight as much as 25 per cent, make it easier for the mason to handle and lay, and allow mortar to enter and "key" the brick in place. Unit also has a slot in one end so that windows can be installed without wood framing, if desired. Serving, according to report, as an entire "through-the-wall" unit, the brick needs no backup, is recommended for use with 2 x 2 inch wood furring on which interior surface and insulating materials can be mounted. Actual trials, the developer reports, have shown that masons can build from 60 to 100 per cent more wall area per day.

COMBINATION WINDOW—JOH-02



A wooden window that can be both raised and lowered and swung open into the room is now available. A combination double hung and casement unit, the *Etling Window* is said to eliminate stretching, straining, and danger of cleaning outside glass. Both sash can reportedly be raised or lowered when opened casementwise, as well as when closed. Available in all sizes, the window is made of redwood with glass embedded in nondrying sealing compound; comes packaged.

PLASTIC WALL TILE—JOH-03



A new plastic wall tile, called *Nupla,* is reported to be low in cost yet to look and feel like tile. It comes in a variety of colors, including marbelized

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they may lead to construction and operating economies.

Technical Literature

To get copies of the pamphlets listed on this page, check the matching "JOH" numbers on the coupon on page 185.

GET THESE BOOKLETS—
Build a technical library.

JOH-O9—Rilco Glued Laminated Wood Arches, Beams, and Trusses. 16 pp., illus.
Several types of wood arches, beams, and trusses are pictured, described, and specified in this booklet.

JOH-O10—Embeco Method for Setting Floor Brick. 4 pp., illus.
This folder describes in detail a method for setting floor brick that reportedly insures strong, tight joints and offsets mortar shrinkage, making for longer lasting tile floors.

JOH-O11—Lawn Care. 4 pp., illus.
Bulletin number 120 in the Lawn Care series tells how to control fungi that produce diseases in grass with a new chemical; reports on several other chemical treatments for lawns; and continues an outline of a spring lawn care program begun in bulletin 119.

JOH-O12—Modern Piping Systems for Underground and Overhead Installations. 58 pp., illus.
Technical information and a treatise on flexibility of piping systems are included in this copiously illustrated book that offers 16 tables and 15 graphs showing piping data.

JOH-O13—Red Topics. 8 pp., illus.
Pages 2 and 3 of the 1951 issue number 3 of this magazine contain a guide for architects and builders on inspecting a plaster job, telling what characteristics to look for in checking proper plaster application. Guide also tells how to proportion admixtures to plaster.

JOH-O14—Flexicore Erection Procedure. 4 pp., illus.
Instructions on recommended procedure for erecting precast, precured, hollow, reinforced concrete roof and floor slabs are detailed and illustrated in this folder.

JOH-O15—Floors Without Flaws. 12 pp., illus.
Modern maintenance methods for asphalt and mastic tile, cork, concrete, linoleum, tile, rubber, magnesite, wood, and terrazzo floors are described in this booklet. A number of the company's products are listed.

JOH-O16—Concrete Masonry Handbook. 64 pp., illus.
Manual of design and construction recommendations for concrete masonry, this book includes a section of suggested construction details for use by architects and builders. It covers the subject of concrete masonry walls from a description of properties to finishes.

New Maintenance Products

SCREW DRIVER—JOH-05

To drive screws and drill holes with the *Yankee Spiral Ratchet Screw Driver,* all you need to do is push. Blade revolves automatically when the handle is pushed, eliminating wrist twisting and enabling screwing jobs to be done faster and more easily, it is said. Two styles are available — the standard and "quick-return." The latter automatically returns the handle after each push, leaving the blade in the screw slot. Both styles come with three drill points.

WOOD SEALER—JOH-06

For use on all wood surfaces, *Valspeed* sealer is claimed to dry in one or two hours and to penetrate deeply into the wood. It is also said to be tough, long wearing, waterproof; to produce a soft gloss finish; to cover 600 square feet with one gallon; to be easy to keep clean and resistant to dirt. Applicable with brush, spray, mop, or cloth, sealer can be used on old or new wood. All surfaces should be free from wax, oil, dirt, and grease.

SAFETY LIGHT PLUG—JOH-07

Protection against fires caused by short circuits is offered in a new fuse coupling called *Fireguard.* The plug, shown above, has a small fuse built into it that breaks the circuit instantly when a short occurs in lamp or extension cords connected to it. Where ordinary fuses are too large to offer this protection, the fuse in the coupling is small enough to protect two cords yet large enough to carry the electrical load for them. When this small fuse blows the rest of the lights stay on, so that it can be replaced safely and easily. By localizing danger and shutting off at that point, the coupling can prevent many fires, according to the claim.

SANDING DEVICE—JOH-08

Said to clean and smooth wood, metal, and other surfaces; to remove old finishes, rust, grease, corrosion, and blisters; and to be useful for feathering plaster and other purposes, *Sand-No-Mor* is an abrasive block that may be cut to any desired shape. There is reportedly no waste or clogging with its use and the block is claimed to give fast abrasive action with only light pressure. Picture above shows block and an enlargement of its structure.

tones, that are said to be long lasting and rich in appearance. Claimed to be easy to install, the tile comes with deep beveled edge or rounded edge. It is said not to rust, warp, shrink, chip, peel, or discolor and to be highly resistant to wear. Suitable for either new construction or remodeling, the tile now has a new adhesive to go with it that offers better bonding and is reported to be easier to handle than previous types of adhesive. Tests show, says the manufacturer, that the tile meet specifications of the National Bureau of Standards.

COPPER SUBSTITUTE—JOH-04

Claimed to save as much as 80 per cent of the copper that is usually used in such items as downspouts, lighting fixtures, and light switch plates, *Duraclad metal* consists of steel sandwiched between sheets of copper. Manufacturer notes that not only is copper saved but its advantages are retained along with the strength of steel, which is said not to expand or contract with temperature changes to the same extent as copper.

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- ☐ JOH-09 Laminated Wood
- ☐ JOH-010 Setting Floor Brick
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W61, Male, 27—ADMINISTRATIVE ASSISTANT

Bachelor's degree in political science and master's degree in public administration, with thesis on federal rent control. Some work toward Ph.D. degree. Experience includes study on building codes and work as junior local assessor examiner. Particularly interested in housing and redevelopment administration.

PLUMBING—

(*Continued from page* 168)

going back and forth to the shop for materials. The supply of materials in the kit can be replenished as needed.

A plumbing maintenance program, planned along the above lines to function with maximum efficiency, not only means substantial economies in operating costs but reduces the problems and headaches of management and contributes greatly to the comfort, convenience, and well being of tenants.

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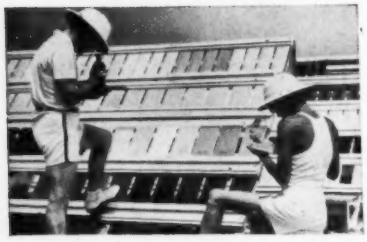

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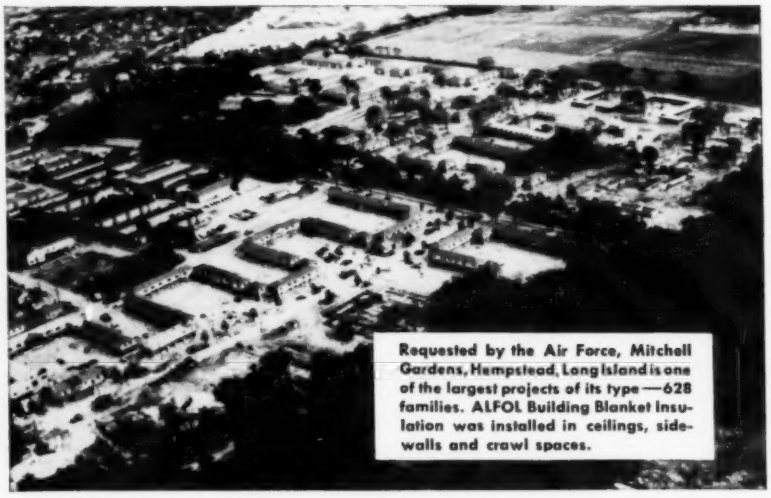

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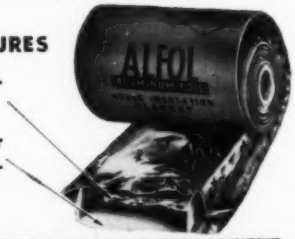

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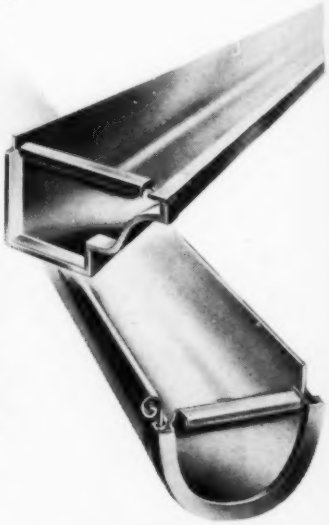

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